Text of a class on
North Coast Ship wrecks
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in Washington.

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given by Don Marshall.

INTRODUCTION

Shipwrecks have been occurring for thousands of years and in all parts of the world. To try to deal with the whole subject in a few hours would necessarily require an extremely superficial approach. Therefore, the topic of this session will be largely limited to wrecks that have occurred locally around the mouth of the Columbia River, an area that has been called the Pacific Graveyard because of the dangerous conditions for shipping and the number of wrecks. It not only could be, but is the subject of an entire book.

The term Pacific Graveyard dates back to the 1880's. It is not well liked by local chambers of commerce and port authorities, but the name was well deserved by the Columbia River's mouth in past decades. I define it as the area from the 1,000-foot cliffs of Tillamook Head at the south, extending along the 17 miles of beach to Point Adams and Clatsop Spit, across the mouth of the Columbia River to 220-foot-high Cape Disappointment, northwards along 28 miles of the North Beach Peninsula and across to Cape Shoalwater on the north side of the entrance to Willapa Harbor, plus the stretch of the Columbia from the bar upriver to Tongue Point.

Quote from Jim Gibbs: "Down through the past century since [white] men first settled the lands of the Columbia, nearly 2,000 vessels of all kinds, from small fishing craft to deep sea cargo vessels have been wrecked or damaged around the Columbia River Bar, . . . More than 1,500 lives have been lost."

Over 150 ships are known to have been destroyed in the Pacific Graveyard, most of them stranded while sailing under dead reckoning in misty weather.

Although no major ships have been lost for years, the Pacific Graveyard continues to claim fishing boats and small craft on a regular basis. Local Coast Guard units average about 400 rescues a year, and according to the Daily Astorian, 11 boating deaths occurred in the vicinity of the Columbia River bar and Cape Disappointment during the year ending September 30, 1991.

In dealing with our subject, it might be possible to superficially discuss all 150 major wrecks, but it would not necessarily lead to understanding much about why they occurred when they did or why the numbers of wrecks have risen and fallen through the years. Also, not all wrecks were particularly dramatic and many of them occurred in similar circumstances. Therefore, I will be giving the details on only a limited number of wrecks that illustrate the different types of ships and conditions producing wrecks. This will leave time to explain the natural hazards of the area, and to trace its early exploration, the various types of trade and shipping patterns through the years, the effect of all the wrecks on local residents, and the growth of various government and private institutions that have gradually improved the safety of navigation in this vicinity. We will be seeing slides at intervals throughout the classes.

At this point, give a map orientation to class.

FRENCH SHIP *ALICE*

The shipwreck which occurred closest to this spot was that of the *ALICE*, which stranded on the beach no more than a quarter mile from here in 1909.

Record of American and Foreign Shipping for 1904: French full-rigged steel ship; 1,698 net, 2,630 gross tons; 280.6 feet by 43.9 feet by 22.3 feet depth in hold; built at Bordeaux by the Chanteliers Maritimes in 1901; owned by Les Voiliers de St. Nazaire, S.A.

The *ALICE* Stranded one mile north of Ocean Park on January 15, 1909 during a heavy southwesterly gale. She was 190 days out of London, and 72 days out of Hobart, Tasmania, bound for Portland with a cargo of 3,000 tons of cement consigned to Hind, Rolph & Company, and a crew of 24. She was under charter to then load lumber destined for the Orient at the Hammond Lumber Company mill in Astoria. Captain Aubert was making his first voyage as her master, but had been with her for some years previously, latterly as her first mate. She had been off the Columbia for two weeks battling a northeasterly gale. The wind then shifted to a light southwester that gradually increased to the gale that drove her ashore.

From a statement of Captain Aubert to Angus Gor of the Morning Astorian: He sighted breakers a little after four o'clock Friday morning and immediately made an attempt to wear ship, but soon realized it was too late. Consequently, Aubert decided, in order to save lives, to drive the ship head-on to the beach, which he achieved with marvelous exactitude. When the *ALICE* was about to strike, Aubert rushed below and wrote a brief note telling of the wreck and noting that his chronometers indicated that he should still be 60 miles offshore. He put the note in a bottle and threw it overboard. Then Aubert commenced launching lifeboats and getting his crew ashore, along with the most essential ship's papers and valuables.

Another account of the wreck was given by able-bodied seaman Louis DeReugemond: "Reaching the Columbia River we ran in towards the bar, but had to stand to sea again as we could raise no tug boat. For a number of days it was just the same--in and off and hove to. It kept blowing pretty stiff, mostly from E.N.E. and it was chilly and disagreeable. It was often difficult making in on account of these winds.

"On Thursday, the wind changed more to the southward and we stood in toward the Shoalwater Bay entrance. Thursday night the glass dropped and sail was shortened as we moved down the coast, close hauled. It was blowing strong from southeast, kicking up quite a lumpy sea."

"About 3:00 on Friday morning the wind stiffened into a gale and veered suddenly to the southwest making the ocean beach a lee shore for us. We had 15 fathom[s] by the lead at this time, but almost before we knew the water had shoaled to six fathom[s] and a heavy sea, coming with the gale and on our beam, prevented our ship from being properly managed. She would come up to the wind, shake, and fall back. In allowing a little freedom for steerage she made through the outer break[ers] and struck; and as her nose swung, a sea, taking her under the counter, carried us half-way through the surf and landed us hard and fast. The morning was dark and the air almost a fog with sea mist. The shore line appeared to be miles away. Her stern swung slightly after striking the last time and nearly all the canvas was caught aback and torn loose. Some of the heavy rigging came down at that time too."

"At first signs of daylight we made ready to quit the ship. One of the long boats was swung clear on the lee side and all hands went on board. We pushed off a little too late on the swell and when it receded we were carried out beyong the ship, but catching the next one, fortunately right after it broke, we went like a torpedo boat almost up to dry sand."

"We've been living royally here on shore and feel fine, but it seems too bad to see that fine steel packet out there digging her own grave in the sand."

According to Richard Montgomery, a childhood playmate, Willie Taylor, son of the owners of the hotel at Ocean Park, discovered the stranding at 7:45 a.m. when his dog, who had been shipwrecked two years earlier on the same beach in the *SOLANO*, began barking. Willie spread word of the wreck and got word to the U.S. Lifesaving Service Station at Klipsan. Captain Connick, Keeper of the Klipsan Lifesaving Station set out along the beach, but one story goes that his team of horses baulked in the soft sand, so he had to launch his surfboat and row the remaining four miles. His crew arrived in an exhausted state only to find that all of the *ALICE*'s crew had landed safely in their own boats.

However, the Morning Astorian of January 16th reported the following statement by Captain Connick of the Lifesaving crew: "Just before high water, yesterday morning, a little before five o'clock, the beach patrol from our station reported a ship standing in, with shortened canvas and too close to be warned out or to get out if warned. She was evidently completely out of her reckoning, since she did not seem to vary her course at all, nor make any of the usual movements with helm or sails to retrieve such a desperate situation, but continued straight on into the breakers and through them to the sands, where she brought up all standing, the shock of contact hardly disturbing her sticks; and there she is, head-on, with six feet of water around her at low tide."

"We got to her without loss of time and tendered our services, but as all hands were ashore and the ship hard and fast and in no immmediate danger, all we could do was to invite the officers and men to the station, where we made them as comfortable as possible."

On January 17 Angus Gor of the Morning Astorian described the wreck: "She lies diametrically athwart the beach; with her head well down, as if she had plunged into a wide pit of quicksand, and her stern rises at least 15 feet above the line of her bows; she is in about the middle of the breakers, and her spar deck is flush with the run of the seas. . . . her lines from bow to stern are level and straight, which convinced me that her back was broken; and I am also of the opinion that when she came ashore, she dropped one or both of her anchors under her forefoot and pounded a hole in her bows, which may account for her being down by the head so much. Her fore and main upper spars are all hanging by their gear; all the squaresails, under which she was driven ashore, are in tatters, and she is as complete and hopeless a wreck as I ever beheld. Nothing can save ship nor cargo in my estimation. . . . She has 11,000 barrels of cement, but as the sea has swept her hatches clear, this is ruined and contributes to her devastation by holding her down under the tremendous and pitiless pressure of the raging surf."

The next day residents of Chinook took advantage of excursion rates on the local railroad to come view the wreck. The officers and sailors were quartered in the Taylor Hotel in Ocean Park, pending the arrival of the French Consul and ship's agents from Portland.

Three days after the wreck the surf was still so high that only a few of his men joined Captain Aubert and the lifesaving crew for a return to the wreck to retrieve personal belongings.

On January 20th Captain Vesey of Portland, marine surveyor for Lloyd's of London, reported that the *ALICE* and her cargo were total losses and would be put up for auction as salvage by the underwriters.

On Sunday, the 24th, Captain Aubert and his first officer were in Astoria attending to closing out all the ship's business details. Aubert and his crew were schedulled to depart the next day for France via New York City, transportation having been arranged by Monsieur Labbe, the French Consul at Portland.

The cement cargo soon hardened into a permanent crypt, in which one mast remained standing until finally toppled by the surf in 1930. Local residents say that traces of the wreck are sometimes yet visible when extremely low tides occur.

LOCAL CONDITIONS

General Northwest conditions – Few sailors particularly fear the North Pacific so long as they sail in open water of unfathomable depths. The fear comes on approach to shore, for the whole Northwest coast of the United States is a relatively hazardous place for ships. The prevailing winds come markedly from the west, making this usually a lee shore, with consequent danger that a sailing vessel or a disabled power craft will be driven by winds and ocean swells onto the rugged coast and crushed between the rocks or sands and the relentless pounding of the surf. It is especially difficult for sailing vessels, which cannot sail directly into the wind or even make much headway tacking to windward when storm conditions prevail.

Geology – Furthermore, the Pacific coast is still being thrust upward by the geological forces of plate tectonics, in which the continental plate rides up over that of the seabed, creating a range of coastal mountains that rise precipitously from the ocean, leaving few safe harbors for large ships. Therefore, passages between ports are long and must frequently be made during bad weather. In fact, Oregon has the straightest coast of any major seaboard state.

Weather – The Northwest is also subject to much stormy weather and fogs, while strong ocean currents are of unpredictable direction and velocity, often driving a vessel considerably off the course actually being steered. In fact, the combination of poor visibility and strong currents account for the majority of strandings because the vessels discovered too late that they were much closer to shore than anticipated.

North Head, Washington, near the mouth of the Columbia, is among the windiest places in the continental United States. Official Weather Bureau records give an annual average of 80 days with winds in excess of 40 miles per hour. Winds are from the Northwest for 231 days of the year, although the strongest winds are southerly. The highest recorded velocity to date is 150 miles per hour. There is also an average of 37 days of dense fog each year and yearly rainfall of around 50 inches. To give some examples of the ferocious weather: There was a storm of up to 120 miles per hour on January 15, 1893. On November 19, 1909 a 90 mile-per-hour gale picked up the weather station instrument shelter on North Head and blew it over a fence and for a distance of 50 feet. In 1920 the anemometer blew away after registering 132 miles per hour. The worst recorded wind happened January 29, 1921 when the velocity suddenly jumped from 40 to 126 miles per hour and then, for a single minute, to 150 miles per hour, bringing down huge trees that had probably stood for many centuries (gusts of 160 miles per hour were unofficially reported, but all the instruments were destroyed). Gusts of 120 miles per hour were again recorded during the famous Columbus Day storm of 1962, although the worst of that particular storm struck far to the south. Typical storm velocities are about 40 miles per hour, but 60 is not uncommon. Although hurricanes and typhoons are classified as strictly tropical storm systems, any wind of 64 knots and up is considered hurricane force. During major storms, wave heights exceeding 40 feet may occur along the coast.

The Columbia River – To these general hazards of the region must be added those specific to the Columbia's mouth, which was a fearful place indeed in its natural state. With a volume of flow of up to one million cubic feet per second or 160 million acre feet per year, the Columbia is the second biggest river system in the United States and much the largest river flowing into the Pacific from the Americas (although the Yukon River is longer than the main stem of the Columbia). The Columbia River proper is 1,214 miles long (51st longest in world) and its major tributary, the Snake, is 1,038 miles long (59th longest). It drains about 259,000 square miles, including much of Oregon and Washington, all of Idaho and Montana west of the Continental Divide, part of British Columbia, and small parts of western Wyoming and northern Nevada and Utah--an area larger than all of France. It is navigable by ocean going vessels 188 miles upriver to The Dalles. Cutting its way from the Canadian Rockies to the Pacific through two more mountain ranges, the Columbia's course drops in altitude more rapidly than most large rivers, with much of it through a comparatively narrow gorge, creating a very powerful current that carries down large amounts of sediment in suspension. Where the outflowing current collides with ocean swells, the two forces cancel out, allowing much of the sediment to settle to the bottom. Over the millenia, this created vast sandy shoals at the river's mouth which collectively constituted the Columbia River bar, strictly speaking.

The Columbia's bar – Before the intervention of man, the mouth of the Columbia was in constant transition; channels rapidly changed location and depth, due to the interaction of storm waves with powerful tidal currents and the river's strong, but seasonally variable current. An existing channel would silt up, only to have the river cut a new course through old sand bars. At the time of discovery the channel depths at the Columbia's mouth varied from 19 to 25 feet, much less than many places upstream. The entrance to Willapa Harbor (Originally called Shoalwater Bay) was actually deeper, at 23 to 30 feet.

In the area of the bar, sudden and unpredictable changes in the currents occur according to the state of the tide and weather. When the ebb tide is added to the river's flow, currents can reach a velocity of eight knots in certain locations. During storms, the collision of the river's outflow with storm waves piling up on the shallows creates vicious breaking waves, especially during ebb tides. These breakers often reach heights of 18 to 25 feet, and sometimes exceed 50 feet. At such times the bar is unsafe for any vessel whatever. Even in more average conditions, it takes great skill to control a ship in rough water with swift and treacherous cross currents in a narrow shipping channel. A further problem is that there is a northerly ocean current close inshore; many vessels were carried north of the river at night, in storm, or in a fog and then mistook the North Beach Peninsula for Clatsop Beach, with the result that, in the belief they were entering the Columbia; they ran aground around the entrance to Willapa Harbor. Since a cubic yard of water

weighs nearly a ton, even the strongest hull can be battered to pieces between waves and sand if it ever goes aground in such conditions. The fearful situation of crossing the Columbia River bar in a sailing vessel without a local pilot in the days when the location and depth of the channel were always somewhat uncertain is almost unimaginable. The slightest error or failure of the wind at a critical moment would spell sudden disaster.

Lieutenant Charles Wilkes visited the Columbia in command of the U.S. Exploring Expedition in 1841. He was a stern, experienced naval officer and one not noted for sensitivity or faintheartedness, but he wrote, "Mere description can give little idea of the terrors of the bar of the Columbia: All who have seen it have spoken of the wildness of the scene and the incessant roar of the waters, representing it as one of the most fearful sights that can possibly meet the eye of the sailor."

Another sober source, the U.S. Coast Survey's official 1869 Coast Pilot of California, Oregon & Washington Territory added these comments: "The entrance to Columbia River is five miles wide between the nearest parts of Cape Disappointment and Point Adams, ... But the passage is greatly obstructed by shifting shoals, which lie two or three miles outside the line joining the two points. The numerous surveys that have been made of this river at different times prove so conclusively the great changes constantly going on in the channels through the shoals, that no sailing directions that may be prepared can be relied upon for any great length of time. The best advice that can be given mariners is, *when up with the bar wait for a pilot*. . . . During heavy weather, and especially in winter the sea breaks with terrific fury from northwest of Cape Disappointment, well to the southward of Point Adams. The mail steamers have sometimes to wait days for the smallest show of an opening to get in; and sailing vessels have laid off the entrance six weeks waiting for a fair opportunity to enter. Many lie inside for weeks unable to get out. The mail steamers, by exerting all their power, sometimes drive through the combers, but have their decks swept fore and aft by every sea. Few places present a scene of more wildness than this bar during a southeast gale."

According to a recent description in a U.S. Coast Pilot, "The Columbia River bar is very dangerous because of sudden and unpredictable changes in the currents, often accompanied by breakers. It is reported that ebb currents on the north side of the bar attain velocities of 6 to 8 knots. . . . In the entrance the currents are variable. . . . The current is always modified both as to velocity and time of slack water by the river discharge. . . . Heavy breakers have been reported as far inside the entrance as Buoy 12, south of Sand Island." The mean range of the tide at Astoria is 6.5 feet, but a range of 12 feet may occur at maximum tides.

According to surveys conducted at intervals since 1852, the Willapa Harbor bar varied in depth from 18 to 25 feet. Average daily tidal range in Bay is eight to ten feet, but extremes of 19 feet have occurred. The location of the channel has wandered north and south in cycles through the years and since 1890 the entrance has moved about 7,000 feet northward, causing severe shoreline erosion at Cape Shoalwater around the Willapa Lighthouse.

EARLY LEGENDS

Junks - Although positive evidence is lacking, certain Indian legends and stray finds of artifacts suggest that wrecks of Oriental sailing vessels called junks may have occurred in this area during the prehistoric period. Between about 1800 and 1875, at least 75 Oriental junks were found adrift at sea or on the American coast, having been disabled in storms and carried to the American coast by the *kuroshio* or Japanese Current; therefore, it is reasonable to believe that other such wrecks occurred prior to the region's official "discovery" by western powers. And there probably were survivors from such wrecks who lived for some time among the Northwest Indians.

There are Chinese records of a voyage as long ago as the fifth century A.D. that may refer to an exploration of the American coast, but the descriptions are so vague that nothing has ever been proved.

There is also an Indian legend from the Nehalem, Oregon area that has been interpreted as referring to a shipwrecked Oriental of about the time of Columbus, whose skill in boatbuilding made him a leader of an Indian band that terrorized other tribes far along the coast.

In 1617 a Japanese ship sailed to Acapulco in an unsuccessful attempt to open direct trade with New Spain (as Mexico was then called), proving the seagoing ability of the earlier Japanese ships. But, in 1636, fearing that Spain or Portugal would attempt a conquest of Japan, an imperial edict severely restricted foreign contacts. Besides prohibiting Christianity and closing Japanese ports to foreign ships, it also forbade Japanese subjects from going abroad on pain of death and restricted construction of Japanese vessels to unseaworthy designs to prevent them making secret foreign voyages. In particular the rudder was a large, unwieldy afair easily broken in high seas. Inevitably, Japanese vessels engaged in fishing or coastal trading were often disabled when caught at sea by severe storms. They were then apt to be caught in the Japanese current and carried far to the east across the Pacific. Often the crews starved or died of thirst, but sometimes they survived months of helpless drifting at sea.

About 1780 there was a Japanese wreck in the Aleutian Islands. A Japanese junk was wrecked around 1800 near Sitka, Alaska with survivors aboard. In 1813 a British brig found a dismasted 700-ton Japanese junk drifting 150 miles offshore abreast of Queen Charlotte Island, British Columbia; three people were still alive after 18 months at sea. A Japanese vessel wrecked near Cape Flattery, Washington in 1833 and three survivors were ransomed from slavery among the Indians by the Hudson's Bay Company and were ultimately sent home.

In 1820 two local Clatsop Indians found such a vessel stranded near Point Adams, Oregon, but no people were aboard. In 1905 a gale washed pieces of a an unidentified Japanese junk ashore north of Ocean Park. The days of the Edict were long past, but unfortunate fishing vessels continued occasionally to become disabled and drift away in the Japanese Current.

In 1960 Long Beach residents found a number of large clay jars adrift in the ocean or washed up on the beach. These were similar to those used for storing rice and wine in the Orient, but had a look of great age and long submersion. It is remotely possible that a storm washed them out of some ancient wreck.

Possible early European shipwrecks - Besides the probable "prehistoric" Oriental shipwrecks, there are also legends and other indications that some European ships were wrecked in this general area well before it was officially discovered. In this connection, it is worth noting that the Chinook Indian word for white men was *Tlehon-ipts*, meaning "those who drift ashore", which possibly referred originally to early shipwreck survivors.

Neahkahnie Mountain - There are numerous versions of a famous tale, based on Indian legends, of strange white men coming ashore long ago to bury a chest on or near Neahkahnie Mountain, Oregon, replete with a slain Negro placed on top to frighten away the superstitious Indians. Some versions include an apparent sea battle with another ship. In some versions the strangers sailed away. In others, they are shipwrecked and survivors lived for some time among the natives, until the Indians massacred them for abuse of their womenfolk. The legends are too contradictory in detail to be considered reliable, but rock cairns and stones engraved with cryptic symbols of a European character have definitely been found on the mountain.

Beeswax wreck - Much more certain is the presence of quite an old wreck around the mouth of the Nehalem River, Oregon. This is near enough to Neahkahnie Mountain that it may be related to the previous legend. Tons of beeswax have been dug from the beach sands or found washed up since the first written reports of it by fur traders of the early 1800's. Many pieces have markings in European numbers or characters, as well as symbols. The wax has been scientifically identified as of Asian, probably Philippine, origin. Radiocarbon dating indicates the late 17th or early 18th century. Beeswax has been found as far north as Ilwaco, Washington, where in 1901 a farmer dug a 24 inches long piece out of his garden about 1,000 feet from the water's edge east of town. In addition, large pieces of teak timbers, which seem of great age were formerly found in the area.

The exact identity of the wreck is unknown, but is almost certainly one of the annual Manila galleons of Spain. A likely candidate is the *SAN FRANCISCO XAVIER*, which sailed from Manila in 1707 and was never heard from again. She is known to have included some 300 tons of beeswax in her cargo. The reason for all this wax is that wax from Asian bees could be made into candles that had superior burning characteristics; thus it was a luxury item for wealthy households and Catholic church services. Galleons sailing west from Acapulco to Manila could take advantage of favorable trade winds to steer a fairly direct course, but these same winds forced galleons eastbound from Manila to Acapulco to take a very different route. They steered far north, almost to Japan, and then east across the North Pacific to take advantage of favorable winds and currents, intending to make landfall around Cape Mendocino, California and then coasting on down to Acapulco. However, they could easily have been driven by storms at least as far north as the Nehalem.

Konapee - Another Indian legend relates to Konapee the Ironworker. One day Clatsop Indians found a strange vessel on the beach not far from the present town of Seaside. Hairy-faced survivors appeared from inside and then apparently made popcorn in a kettle on the beach. The wreck was soon accidentally burned, but the Clatsops salvaged the metals. One survivor, called Konapee by the Indians, was so skilled in metal working that he won his freedom. Because he apparently had a number of Chinese cash coins, some writers have thought the wreck was Oriental, but other details point to a European, probably Spanish, wreck. Captain James Cook noted in the journal of his voyage of exploration along the Northwest coast that Indians here seemed unsurprised by the metals of the Whites.

Soto - In 1811 a fur trader named Gabriel Franchere reported meeting an old man at the Cascades of the Columbia who gave his name as Soto and said that his father was one of four Spaniards wrecked on Clatsop Beach. They eventually tried to go eastward to return to civilization, but his father was prevented from going further at the Cascades, where he married Soto's Indian mother. This would place the wreck probably in the time frame of 1731 to 1761.

Callaby/Ramsey - When the explorers Lewis and Clark spent the winter of 1805-06 near the mouth of the Columbia, they described encountering a freckled Clatsop Indian with dark red hair, about 25 years old, who they thought had to be at least half white. This should place a shipwreck somewhere in the area around the 1770's. In 1813 Alexander Henry reported in New Light on the History of the Greater Northwest seeing a man about 30 years old with dark red hair, who he said was the son of a white man wrecked years earlier down the coast from the Columbia. These accounts tally with a local story that the lone survivor of a shipwreck in the Tillamook Bay area later lived among the Clatsop Indians between Astoria and Seaside, Oregon and had two sons by an Indian wife. He himself died in an epidemic that broke out after a visit by one of the first fur trading ships.

EARLY EXPLORATION

At this point, a review of early exploration of the Northwest coast may be in order, to place subsequent shipwrecks in a proper historical context.

Cabrilho & Ferrelo - In 1542 Joao Rodrigues Cabrilho, a Portuguese navigator sailing for Spain, explored the Pacific coast north from Mexico as far as Point Reyes, near San Francisco, California. Soon afterwards he died because of a fall and the Chief Pilot, Bartolome Ferrelo, took over. Early in 1543 Ferrelo was driven far to the north in stormy weather, which made it impossible to ascertain his position with any accuracy, but he probably reached the vicinity of the present boundary between Oregon and California, perhaps even further north. Then the wind changed and, running short of food, Ferrelo was glad to take the expedition home. At this time, Spain sought to keep her explorations secret, and the rest of the world did not learn of this voyage for centuries.

Drake – The first European voyage known with certainty to have reached any part of the Northwest was that of the famous English privateer Francis Drake. He sailed from England in 1577, passed through the Straits of Magellan, and proceeded to plunder the weakly defended Spanish towns and shipping on the Pacific coast of South America. With his ship's hold crammed with loot, in 1579 he sailed far to the north along the Pacific coast of North America. Drake's log book disappeared soon after his voyage, and the main eyewitness record comes from the ship's chaplain, who was not in Drake's confidence. Therefore, we do not have a clear statement of Drake's intentions, and there are contradictions in the record of just how far north the expedition went. Drake probably feared he would be intercepted by Spanish warships if he tried to return the way he came and was, therefore, trying to find a safe route home by way of the legendary Northwest Passage or Strait of Anian. Geographers had theorized, on the basis of an idea of geographic symmetry, that there must be a route through or around North America, similar to that by the Straits of Magellan for South America. Eventually, Drake gave up this presumed search and turned back because of fogs and cold weather. From the descriptions, he certainly came as far as the central Oregon coast, but may have gone nearly up to the Canadian border. In any case, he made no landings in this area. Afterwards, he refitted his ship, the *Golden Hind*, on the California coast, probably at Drake's Bay north of San Francisco, before returning to England in 1580 by crossing the Pacific and rounding the Cape of Good Hope at the tip of Africa. This was the first English voyage to circumnavigate the globe.

Juan de Fuca – There may have been an extensive Spanish voyage of exploration in Northwest waters in 1592, but this is controversial. An English promoter of exploration schemes claimed to have talked to a Greek pilot who the Spanish called Juan de Fuca. According to the story, de Fuca led a voyage in 1592 which found a large inland sea between 47° and 48° north latitude. The location and some other geographic descriptions accord well with the actual Strait of Juan de Fuca and the enclosed waters of Puget Sound and the straits east of Vancouver Island. On the other hand, the story also includes yarns about large communities and great riches which certainly never existed. No other record of such a voyage has been found.

Aguilar – In 1602-03 another Spanish expedition voyaged northwards from Mexico to explore the Pacific coast. One vessel commanded by Martin Aguilar reported discovery of a large river and may have been as far north as the central Oregon coast. After that, recorded voyages in Northwest waters lapsed for more than 150 years, with Spain preoccupied in consolidating the vast empire she had already claimed.

Russians – Meanwhile, working from Siberian bases, imperial Russia began exploring Alaskan waters in 1728 and, by 1744 was exploiting the Aleutian Islands in the fur trade. In the 1760's the Spanish crown learned of the Russian activity and became alarmed that the Russians might soon become a threat to Spanish territorial claims along the Pacific coast of North America. Consequently, Spain began a period of renewed effort at exploration and colonization. The first of these new efforts to press north of California was the 1774 voyage of Juan Perez nearly up to Alaskan waters. However, he did not closely examine the Oregon and Washington coasts.

Hezeta – In 1775 two more Spanish naval vessels explored the Northwest coast. Juan de Bodega y Quadra reached southern Alaska in the schooner *Sonora*. Captain Bruno Hezeta of the *Santiago* landed on the Washington coast to formally take possession of the region for Spain and sailed about to the present Canadian boundary before turning back because of scurvy among his crew. On August 17th he was off the Columbia's mouth and believed because of the currents and eddies that there was a great river. However, he dared not attempt to prove his discovery by actually entering because his crew was too weak from scurvy to raise his only remaining anchor, if he was forced to drop it. Another voyage to the Northwest was made in 1779 by Bodega y Quadra and by Ignacio Arteaga. Having found no Russian outposts, this was considered sufficient to justify a claim to the entire coast and Spanish activity then lapsed for several more years.

Cook – In 1778 Captain James Cook, the famous British naval explorer, visited the Northwest coast with orders to try to definitely find out whether the legendary Northwest Passage existed in Alaskan waters. Cook sailed along the Oregon and Washington coasts, where he sighted and named certain prominent headlands, but poor weather and limited time prevented his discovery of either the Columbia River or the Strait of Juan de Fuca. Cook did spend some time at Nootka Sound on the west coast of Vancouver Island before pushing all the way up into the Bering Strait, disproving the existence of any practicable Northwest Passage between the Pacific and Hudson's Bay. One important accidental effect of this voyage was a veritable "fur rush" to Northwest waters, after publication of official reports revealed the high value commanded by sea otter pelts in the Chinese market. This fact was previously known to the Russians, but not other nations.

Fur traders – Several important discoveries were subsequently made by fur traders. In 1787 Captain Charles Barkley of the British merchant ship *Imperial Eagle* chanced upon the entrance of the Strait of Juan de Fuca, which he named in honor of the legendary Greek voyager. John Meares, another English captain discovered and named Shoalwater Bay (now Willapa Harbor) in 1788; he was also off the Columbia, but the weather was bad and breakers completely across the mouth led him to discount Hezeta's report of a great river, so he gave the name Deception Bay to its entrance and Cape Disappointment to the principal landmark.

Nootka Incident – Meanwhile, the Russians had established their first permanent settlement in America at Kodiak Island, Alaska in 1784. News of this caused a new Spanish expedition to be sent north to investigate in 1788 under Don Esteban Martinez, who became even more alarmed about all the activity by British fur traders at Nootka. Martinez returned the next year to set up a regular fortified colony at Nootka, where he soon seized two British ships and their crews and touched off an international incident that nearly led to a general European war. A compromise was reached in a treaty of 1790 that called for each nation to send representatives to the site to work out details. While this was going on, several Spanish naval lieutenants conducted detailed surveys of the waters around Vancouver Island and the Queen Charlotte Islands of present British Columbia.

Vancouver – Britain sent Captain George Vancouver of the Royal Navy, who had served under Cook, to meet Captain Bodega y Quadra at Nootka. Besides the diplomatic mission, Vancouver was to search for a great "River of the West," the existence of which had been rumored for several decades, based on Indian tales. He was also to look for de Fuca's inland sea in the vicinity of the recently discovered strait. Vancouver's ships passed the Columbia early in 1792, but he failed to correctly evaluate what he saw, again due to bad weather. He did, however, discover and explore Puget Sound, as well as survey the waters east of Vancouver Island before meeting Bodega.

Gray – Meanwhile, the honor of discovering the "Great River of the West," fell to an American fur trader, Captain Robert Gray, commanding the *COLUMBIA REDIVIVA* of Boston. Gray had earlier noted signs of a big river's current and returned to successfully cross the bar on May 11, 1792. Gray named the river after his ship and conferred the name Point Adams on the low land on the south side of the bar. Finding a somewhat scanty supply of furs, he went only a few miles upriver and remained for only a few days. Gray also found Grays Harbor, Washington that year and was probably the first Caucasian to enter Tillamook Bay, Oregon during a previous voyage in 1788.

On his return southwards, Vancouver sent H.M.S. *CHATHAM* under Lieutenant William Broughton into the Columbia in October 1792. The *CHATHAM* almost became the first victim of the Columbia bar when she struck bottom while entering. Using the ship's boats, Broughton explored the river up to Vancouver Point, near the present city of that name some 100 miles inland.

Lewis & Clark – By now the coast was quite well known, but much of the interior was still a mystery until the famous U.S. Army expedition commanded by Captains Meriwether Lewis and William Clark was sent overland to explore the Louisiana Purchase and continue to the Oregon Country. They ascended the Missouri, crossed the northern Rocky Mountains to the upper Columbia, and then came down the river by boat to its mouth, where they spent the winter of 1805-06 at Fort Clatsop on the Oregon side.

Astoria – The first permanent occupation of the area commenced when John Jacob Astor's Pacific Fur Company established an American trading fort at Astoria in the spring of 1811. However, under threat of seizure during the War of 1812, it had to be sold to the British North West Company in 1813. The latter firm merged into the Hudson's Bay Company in 1821. Although the United States continued to press its claims, based on Gray's discovery of the Columbia, Lewis and Clark's inland exploration, and the original establishment of Astoria under the U.S. flag, Britain remained in effective control of the whole region until the 1840's, when settlement by American farmers coming overland simply outpopulated the British fur traders and their French Canadian employees.

SAILING SHIP WRECKS

Wrecks of exploring and fur trade vessels – Although the entrance of the Columbia River was a very dangerous place for sailing ships, for many years there were few wrecks. This was for the simple reason that not many ships were here. The fur trade, which dominated the area for decades, did not require and could not support very many ships. The only other visiting vessels were a handful of warships on missions of exploration and hydrographic survey or the occasional whaling ship in search of supplies.

TONQUIN – Several lives were lost at the Columbia's mouth in 1811, when small boats were sent from Astor's ship *TONQUIN* in stormy weather to try to find a ship channel for entering the river. These capsized in the breakers and most of the occupants either drowned or died of exposure if they made it to shore. Among the dead were some Polynesians from the Hawaiian Islands who had been hired as sailors.

RACOON – In early 1814 a British warship, H.M.S. *RACOON*, almost miraculously escaped foundering on the bar. This sloop of war had been sent around Cape Horn to seize Astoria from the Americans, only to find the place had been bought by the North West Company of Montreal. When leaving the river, she struck bottom very hard and began leaking dangerously. The *RACOON* could not turn back, however, for the same wind that was favorable for getting out made that impossible. The nearest inhabited harbor was Spanish San Francisco, where she arrived with several feet of water in her hold and the crew exhausted from pumping. When beached for repairs, it was found that several feet of her keel, the most critical part of a ship's structural framework, had been torn away from her bow. It is unbelievable that she escaped sinking like a stone immediately. In the early 1970's a copper-sheathed timber that is almost certainly the lost piece of the *RACOON*'s keel washed out of the sands on Clatsop Spit and is now displayed in the Columbia River Maritime Museum.

HILLIAM AND ANN - In spite of loss of life and near disasters, no ship is known to have sunk at the mouth of the Columbia until 1829 when a Hudson's Bay Company supply vessel became the first definitely recorded wreck. The *HILLIAM AND ANN* went aground in rough weather on Clatsop Spit, while bound upriver to Fort Vancouver, on March 11, 1829 with the loss of all 46 people aboard. The Clatsop Indians plundered the wreckage, including a fully equipped ship's boat. The empty boat caused an incorrect accusation that the Clatsops had murdered survivors. Dr.John McLoughlin, Chief Factor at Fort Vancouver, demanded the return of the Company's property. When the Indians refused, he sent an armed vessel down from Fort Vancouver which bombarded their village, while Company men attacked from landward. The Clatsop chief and two other Indians were killed, and the plundered items were handed over.

1830 - *ISABELLA*: Loss of the *HILLIAM AND ANN* with her cargo threw the operations of the Hudson's Bay Company in the Pacific Northwest into disarray. A replacement vessel had to be found, so the company purchased the *ISABELLA* in October 1829 and quickly fitted her out for a voyage to the Columbia. She was a small, two-masted, square-rigged cargo vessel, variously described as a brig or a snow, and registered at 195 tons.

On May 2, 1830 the *ISABELLA* attempted to enter the Columbia River. Her logbook records that the weather was fine, but that heavy surf was breaking on the bar that day. Captain William Ryan somehow mistook Chinook Point for the critical landmark at Cape Disappointment, possibly due to a very localized fog which typifies the area seasonally, and consequently tried to steer through the breakers well to the south of the proper ship channel (which was then near Cape Disappointment, much further north than at present). The *ISABELLA* struck bottom repeatedly, lost her rudder, and went out of control until Ryan had the anchor dropped. The crew then began heaving cargo overboard to lighten the ship. That evening, Captain Ryan ordered his crew to abandon ship, fearing that she would break up from continued pounding in the shallows. Having heard the erroneous rumors about the supposed massacre of survivors from the *HILLIAM AND ANN*, Ryan also wanted to get away from the area before Indians could gather for an attack. After the crew had all left her safely, the *ISABELLA*'s anchor chains snapped, and she drifted aground on the beach at Sand Island.

Captain Ryan proceeded upriver by boat to report the loss to Chief Factor John McLoughlin at Fort Vancouver. McLoughlin immediately sent him back with additional men to salvage whatever they could. The *ISABELLA* was found lying on her beam ends with six feet of water in her hold, but the fur traders pumped much of the water out and stripped her of everything they could get, as weather permitted, between May 7th and June 2nd. Meanwhile, the hull was gradually being broken up by wave action and was settling into the sands.

About seventy-five per cent of the cargo, by value, was recovered by the salvors in 1830, according to a list preserved in the archives of the Hudson's Bay Company. The *ISABELLA* carried trade goods, to exchange to Indian tribes for furs, and general supplies for the personnel of Hudson's Bay Company posts throughout the Pacific Northwest. In addition to beads, blankets, liquor, guns, and ammunition, the itemized list of salvaged cargo featured a particularly impressive variety of cloth, thread, and finished garments. Other items included mirrors, combs, shoes, buttons, tin and copper cooking pots, candles, 500 pounds of lead, knives, tools, nails, paint, stationery supplies, medicines, tobacco, several hundred pounds of tea, and preserved foods (including 400 pounds of gingerbread!). The vessel's rigging, armament, provisions, and navigating instruments were also saved.

In September 1986 a commercial diver found an old, wooden shipwreck a few hundred yards south of Sand Island when he was hired by a commercial fisherman to free a salmon gillnet that had become snagged on timbers projecting out of the river bottom. This find was reported to the Columbia River Maritime Museum in nearby Astoria, Oregon. A sample of the timber showed that the wreck had been pegged together with octagonal, wooden treenails, in the old tradition of shipbuilding, rather than nailed and bolted with metal fastenings. This indicated that the wreck was quite old, and the fisherman suggested it might be from the *ISABELLA*.

Research by the museum's curator soon eliminated most other possibilities, so a group of volunteer divers was recruited to conduct further investigations, conducted under trying conditions of cold water, strong tidal currents, and underwater visibility that seldom exceeded one foot. Nevertheless, their work established that most of the vessel's hull survives, although broken into pieces, and with much of it buried in the bottom of the Columbia.

Since the *ISABELLA* was lost while bound for the Hudson's Bay Company post at Fort Vancouver, Washington, which is now a national historic site operated by the National Park Service, that agency was very interested in the discovery. In August of 1987 they sent their Submerged Cultural Resources Unit, a special team of divers who are all professional archaeologists or maritime historians to conduct a thorough mapping and independent assessment of the wreck, assisted by the local volunteers. Using a sophisticated computerized mapping system, this collaboration proved successful beyond all expectation. Physical evidence was found that matched descriptions in old documents, permitting identification of the wreck beyond any reasonable doubt as that of the *ISABELLA*. The wreck's present location, a few hundred yards south of Sand Island, can be accounted for by a historically documented northward migration of the island, due to tidal current patterns. Although no excavation of the wreck has so far been attempted, one result of the work was the listing of the wreck on the National Register of Historic Sites.

1841 - The U.S.S. ***PEACOCK***, a 559 ton sloop-of-war, commanded by Lieutenant William Hudson, participated in the U.S. Exploring Expedition under the overall command of Lieutenant Charles Wilkes, U.S.N. After explorations in Antarctic waters and the South Seas, Wilkes ordered the *PEACOCK* to proceed from Hawaii to survey the Columbia River and then to wait there for Wilkes, who took his other ships to Puget Sound.

The *PEACOCK* arrived off the Columbia July 17, 1841 in thick fog and intermittent breezes. Next day, Hudson tried to enter the river using instructions received from a merchant captain he had met in Hawaii. When Hudson saw breakers across his course, he thought he was too far south and altered course. He missed the channel and the *PEACOCK* began striking bottom. Anchor was dropped and the sails furled while Lieutenant George Emmons was sent in the launch to take soundings. Meanwhile a northwest wind was rising and a strong ebb tide began to run, throwing huge breakers against the stricken ship. Emmons barely made it back to the ship in a vicious squall. Upper masts and yards were lowered to the deck and the ship was lightened by throwing guns and shot overboard, but as her stern began to swing free, waves knocked the rudder loose and its wild swinging started leaks in the stern. One anchor chain broke and the ship struck hard again before another anchor could be dropped. By next morning the *PEACOCK* was dismasted, her pumps were clogged with debris, and the battered warship was beginning to founder.

Hudson took advantage of a slight calming around 7:00 a.m. to abandon ship, permitting only the charts, ship's papers, and scientific records, plus the marines' muskets and ammunition to be taken along. The launch capsized on the second trip, throwing ten men into the river; they narrowly escaped with their lives. By the following morning, when Hudson tried to salvage additional material from his ship, he found only her bowsprit remaining above water. When Wilkes arrived in the U.S.S. *PORPOISE*, he chartered the American merchant schooner *THOMAS H. PERKINS*, then at Astoria, and placed the *PEACOCK*'s crew aboard to continue survey work in the Columbia. When the expedition left the Columbia, the PEACOCK's launch was left in charge of local residents to be used as a pilot boat.

1846 - U.S.S. ***SHARK***: 86 feet by 24 feet 7 inches by 10 feet 4 inches; 178-ton schooner, built at Washington Navy Yard in 1821; armament: ten 18-pounder carronades and two 9-pounder long guns on pivot mounts.

In 1846 the U.S.S. *SHARK*, a small Navy schooner commanded by Lieutenant Neil M. Howison, received orders to proceed from Honolulu to the Columbia to survey conditions in Oregon relative to negotiations with Britain over the division of the Oregon Country between the two countries. She arrived at Fort George (as Astoria was then known) on July 19, 1846. The *SHARK* was almost lost while entering the river because Howison took as a pilot a roguish Negro named James D. Sauls, whose qualifications turned out to consist of having been a cook on the *PEACOCK* who had deserted at Astoria. Sauls promptly ran the *SHARK* aground, but the weather was good, and she got off on a rising tide. Meanwhile, but unknown to Lieutenant Howison, the Oregon Treaty had been signed at Washington on June 15th, extending the Canadian boundary to the Pacific at the 49th parallel.

After completing her mission, the *SHARK* tried to leave the Columbia on September 10, 1846 in heavy weather. She ran aground in the south breakers and quickly began breaking up. All hands safely escaped in her boats, but were stranded at Astoria, until November 16, 1846, when a Hudson's Bay Company vessel was chartered to take them to San Francisco. While waiting, they carved their names on a large rock near the Astoria shoreline. Eventually built over, Shark Rock was uncovered by the great fire of 1922 and later moved to Niagara Park, and then in 1965 to the Columbia River Maritime Museum.

Part of the *SHARK*'s wreck drifted out to sea with three carronades (which are a form of stubby short-range cannon) still attached. This wreckage came ashore south of Hug Point. Midshipman Simes salvaged one gun, which he moved to dry sand. In 1898 a storm uncovered the carronade and the *SHARK*'s capstan near Arch Cape. Due to this event, the name "Cannon Beach" was originally given to the Arch Cape area, but later came to be applied to the present town of that name (which was formerly called Elk Creek or Ecola).

Meanwhile, isolated settlers around Tillamook Bay were desperate for a means to trade with the outside. They salvaged enough iron from wreckage of the *SHARK*, as well as part of the *ORIOLE* (which washed up on Netarts Beach in 1853), to outfit a thirty-ton schooner, the *MORNING STAR*, which they launched on New Year's Day 1855. A replica of the *MORNING STAR*, by the way, is displayed in front of the Tillamook Cheese Factory.

Square-riggers of the Grain Fleet - In the late 1840's, the shipping pattern moved away from exploration and the fur trade, due to the rapid settlement of western Oregon by farmers and the opening up of markets for timber and agricultural produce due to the California gold rush of 1849. Although many from Oregon went to try their luck at prospecting, the wiser ones soon found the chance of riches was much better in supplying the hungry miners in the inflated boom economy.

From 1850 through the first half of the 1860's, a series of gold and silver strikes throughout many parts of Oregon, Washington, Idaho, western Montana, and British Columbia produced our own mining boom and caused the first extensive settlement of much of the dry country east of the Cascade Mountains. There was no transcontinental railroad connection to Oregon until 1884, so the volume of shipping increased rapidly to supply the influx of miners. Due to the high prices and demand for speed, much of the shipping at this time was conducted in steamships. Great sums of gold and silver were, of course, shipped east by sea. As it happens, however, no treasure wrecks occurred in the local area.

The Northwest economy began to settle down to a stable pattern based on salmon fishing, logging, and agriculture around 1870, as the mining booms played out. The export of Northwest grain to feed a hungry Europe began in the late 1860's, and by the 1880's some 200 ships visited Portland every year to load full cargoes of grain. Given the lack of transcontinental rail connections, this was very important to economic development. Most of the grain trade was carried on in foreign ships because the American seagoing merchant marine was in a state of sad decline (due to the Civil War). These foreign ships were big square-rigged sailing vessels, which were still more economical to run on such long routes. Remember that the Panama Canal did not yet exist, so the route was still around Cape Horn at the tip of South America, and steamships simply burned up too much fuel. There is a common misconception that sailing ships were all built of wood, so it is worth noting here that most of these ships were built of iron or steel, which was cheaper in Europe than good shipbuilding timber from about the year 1860.

With the appearance of the grain fleets, a surge of shipwrecks occurred in the Pacific Graveyard. In part, this was simply due to the increased volume of shipping, but the foreign square-riggers were particularly vulnerable to shipwreck under the local conditions. They were strong and quite seaworthy for open ocean operation. However, they remained completely dependent on favorable winds, and a big square-rigger is not highly maneuverable. It can take up to half an hour to put one on the opposite tack (*discuss tacking*). And the skippers of these ships sometimes lacked familiarity with the nature of the Northwest coast and the Columbia bar.

1891 - ***STRATHBLANE***: British iron three-masted ship of 1,300 tons, 235 feet long; built at Glasgow, Scotland in 1868.

The *STRATHBLANE* first entered the Columbia as part of the grain fleet in 1878. On November 3, 1891, she was under the command of Captain George Cuthell, 19 days out from Honolulu bound for the Columbia in ballast to load grain at Portland, with a crew of 30 and two passengers aboard. Twelve hours before the *STRATHBLANE*'s loss her log recorded heavy fog and a rapidly falling barometer, indicating the approach of bad weather. Due to a defective chronometer, Captain Cuthell thought he was still 60 to 70 miles offshore when she sailed straight onto the beach about halfway between Long Beach and Ocean Park, Washington at 5:30 in the morning. Unfortunately, the tide was only beginning to come in, so the ship stranded far out in the surf and came to broadside in a gale. After striking, heavy seas swept her decks, damaging all but one boat. The men remained aboard as long as they could, then the remaining lifeboat was lowered with twelve men and First Officer J.D. Murray. As they pulled away, Captain Cuthell shouted, "Give my love to my wife and family back home," and then, after a pause, "I suppose this will be put down as just another case of reckless navigation but God knows, I did the best I could."

The wreck was spotted at daylight and the Fort Canby lifesaving crew was summoned, arriving by train from Ilwaco by 9:30 a.m. Many residents had gathered to watch the waves breaking right over the doomed ship, while her crew clung to the rigging. Boiling surf frustrated every attempt to launch a surfboat. Several lines were fired from shore, but all fell short. Those still aboard ship made temporary repairs to a lifeboat and tried to launch it, but the boat capsized, throwing its occupants into the raging water. By then, the ship had rolled on her side and the remainder of the men aboard were seen leaping into the sea. The lifesaving crew and residents, some riding horses, went into the surf to help the men washing up on the beach. The Captain and five others who had remained aboard to the last were washed off and all drowned. One young apprentice seaman who got ashore later died of injuries. The seven dead were interred in the Ilwaco Cemetery. The ship had completely disintegrated by 3:00 p.m. the next day.

First Officer Murray remained in Pacific County and married Frances D. Taylor of Ocean Park, while another member of the crew, Charles A. Payne, eventually became editor of the Chinook Observer.

1896 - ***GLENMORAG***: three-masted iron ship, 1,648 tons, 255 feet long, built in Glasgow in 1876 and registered there.

After delivering a cargo of coal to Peru, the *GLENMORAG* sailed in ballast for Astoria to await orders there. She arrived off the Columbia in heavy fog on March 18, 1896 and was becalmed, drifting northwards. At 4:00 p.m. the next afternoon she went on the beach broadside just south of the Oysterville beach access road. Because of the fog, nobody ashore knew of the wreck. Captain Archibald Currie had two boats lowered. One boat capsized in the surf, but all the men made it to the beach safely. While the other boat was rounding the ship's stern, a wave tossed it up under the counter, crushing two men to death and injuring its other occupants. However, it was kept afloat by its watertight flotation chambers and was eventually carried onto the beach. Captain Currie later lowered a third boat and got the remainder of his 27 men ashore safely. The Captain sent sailors out in search of help, and the first news of the wreck was when one of the seamen knocked on a local resident's door.

One of the men injured in the lifeboat accident was William Begg. On shore he was aided by a young lady who removed his wet shoes and gave him warm blankets. We shall hear more of him shortly.

The ship was left standing upright on the beach and suffered little damage. Several salvage attempts were made after her ballast and masts were removed. Finally an anchor was set out beyond the surf and several lines were installed between it and a steam donkey engine installed aboard the *GLENMORAG*. At high water she was dragged off, but then large breakers hit which caused her to sheer broadside, the cables snapped, and the attempt was given up.

For two years after the wreck, a couple crewmen stayed aboard until the insurance underwriters finally wrote the ship off as a complete loss. William Begg was one of the two aboard, and this enterprising young "Limey" gave guided tours of the ship to vacationers at 25 cents each. He eventually married Mary Taylor, the local "angel of mercy" who had helped him just after the wreck, and settled permanently on the Peninsula. The *GLENMORAG* was finally dismantled for scrap metal by Kern & Kern of Portland, although in the winter of 1948 shifting sands revealed about 60 feet of her steel bottom, which the sands again covered within a month.

1896 - ***POTRIMPOS:*** German steel barque, built by Blohm & Voss at Hamburg in 1887 and part of the famous "Flying 'P' Line," owned by Ferdinand Laeisz of Hamburg.

After a 116 day voyage to Mexico under Captain Hellwegge, the *POTRIMPOS* made a 20-day passage up to the Columbia to load grain. Upon arrival off the river, Hellwegge could not find a pilot boat or tug, and a falling wind let the current drive her aground at Long Beach on December 19, 1896. The lifesaving crew set off along the shore, but their team baulked after dragging their equipment through the soft sand for three miles. So, a train on the narrow gauge line (nicknamed the "Clamshell Railroad") that ran up the Peninsula put the gear on a flatcar for the rest of the trip. By the time they arrived, six men had already gotten ashore in one of the ship's boats. The remaining twelve men were rescued by the lifesavers. A hearing exonerated Captain Hellwegge, blaming the wreck on the lack of wind and the north-setting current.

The *POTRIMPOS* seemed salvageable, and in May 1897 the tug *RELIEF* pulled her off the beach, but she was too topheavy with her ballast removed, and she rolled over in the surf. The salvage crew aboard managed to escape from a precarious situation, but the ship was abandoned by the underwriters as a total loss.

1906 - ***PETER IREDALE:*** British four-masted steel barque of 2,075 tons, 287.5 feet by 40 feet broad; built by Ritson & Company at Maryport, England in 1890 for Peter Iredale & Porter of Liverpool.

The *PETER IREDALE* was 28 days out of Salina Cruz, Mexico, bound for the Columbia in ballast to load grain, when she stranded on Clatsop Beach at 6:00 a.m. on October 25, 1906 a few miles below the south jetty.

Captain H. Lawrence later gave this account: "I picked up Tillamook Light at two a.m. and immediately called all hands to set sails, intending to stand off for the mouth of the Columbia and pick up a pilot by day. A heavy southeast wind blew and a strong current prevailed. Before the vessel could be veered around, she was in the breakers and all efforts to keep her off were unavailing. The first shock sent the mizzen top hamper overboard and when she struck again, parts of other masts snapped like pipe stems. It was a miracle that none of the crew was killed by the falling masts as the ship pounded in the surf. After the crew had escaped the danger of falling debris, all hands were summoned aft, as the vessel ran up on the shelving sands with little violence. I told them to abandon ship. The Point Adams surf boat was soon alongside and took all hands quickly and safely ashore."

The *IREDALE*'s distress signals had alerted the Point Adams Lifesaving crew, who were assisted by soldiers from Fort Stevens, and later joined by the Fort Canby Lifesaving crew. According to William K. Inman of the latter crew, Captain Lawrence told him that he had thought he was 50 miles offshore and had been trying for a speed run up the coast, having promised his crew a bonus if they shaved five days off the usual sailing time.

The only casualty connected with the wreck was Malcolm Marshall of nearby Warrenton, who attempted to row his small boat to her the next day, fell overboard, and drowned.

The remains of the *PETER IREDALE* are presently located in Oregon's Fort Stevens State Park and, due to its easy public access and visibility, it may well be the most photographed shipwreck in the U.S., possibly even the world.

1906 - ***GALENA***: British four-masted barque of 2,294 tons; 292 feet by 43 feet by 24 feet; built at Dundee, Scotland in 1890 and owned by Thomas Shute of Liverpool.

The *GALENA*, another British square-rigger, was lost under similar circumstances only three weeks after the *PETER IREDALE*. After 59 days at sea from Chile, she was off the Columbia on November 13, 1906, bound for Portland in ballast. The visibility conditions were poor, and while waiting for a chance to take a bar pilot, she got in too close to shore and was driven on the beach at Surf Pines, about three miles north of Seaside, Oregon. Captain J.J. Howell and two officers remained with her until salvage attempts were given up. She was then partially scrapped where she lay. Her remains are now buried under the dunes about 600 feet from the surf.

1913 - ***GLENESSLIN***: British three-masted barque of 1,818 gross tons, built in 1885.

The wreck of the *GLENESSLIN* occurred considerably south of the Columbia's mouth, but is included here because it was one of the more spectacular and controversial ship losses in Oregon. After 176 days at sea, she was sailing northwards along the Oregon coast in calm seas and perfect visibility on October 1, 1913, when she was seen to head directly towards 1,600-foot Neahkahnie Mountain and right onto the rocks with all sail set. At 2:30 p.m. her bottom was ripped open on a rock ledge and she stopped at the very foot of the mountain. Lines were got ashore and made fast by coastal dwellers who helped the crew ashore, many of whom smelled of alcohol and several were said to actually be drunk. There was never any hope of refloating the wreck, and the insurance underwriters quickly sold the *GLENESSLIN*, which was insured for $30,000, for less than $600. Given the circumstances, they were understandably suspicious that she had been deliberately wrecked for the insurance and refused to pay off until after a long investigation.

Captain Owen William's master's license was suspended for three months. Second Mate John Colefield, who had been on watch, was suspended for six months, and First Mate Harwarth was reprimanded for his slowness in responding to the situation. The affair was generally charged to incompetence, inexperience (both mates were only 22 years old), and drink. Experienced navigators point out that there is a windless pocket in the lee of Cape Falcon, and once a sailing vessel was inside it, she could not be turned about. It is also relevant that in the last six years or so before World War I, it became very difficult to get competent officers or hands for the hard life in sailing vessels. Most first mates were broken down has-beens, often drunkards, second officers were usually mere boys, and most hands were crooks, invalids, and inexperienced steamer hands who were utterly unable to take in sail quickly or very high winds. Anyway, it was a sad end for a ship that held a record 74-day passage from Portland to South Africa.

Lumber Schooners - Another important trade for the Pacific Northwest was the export of timber. Big foreign square-riggers were also involved in carrying this commodity to European markets, but arrid southern California was the most important market for Northwest timber from the Gold Rush until well into this century, and most of this was carried in American coastal vessels. The requirements of long voyages parallel to a dangerous lee shore and having to frequently enter small harbors to load timber called for a different kind of sailing vessel. This explains the prevalence of shallow-draft schooners. Although not as strong as the square rig, nor as efficient for long voyages with a favoring wind, the fore-and-aft schooner rig was more maneuverable. It permitted sailing in a direction somewhat closer to that the wind is blowing from, was also easier to handle, and did not require such big crews. Those designed for the West Coast timber trade had holds that were rather shallow, relative to their size. It should be pointed out that these schooners did not hesitate to make voyages as far afield as Australia when the trade demanded it.

1904 - The ***FRANK H. HOWE***, A 573-ton schooner owned at Boston and commanded by Captain Austin Keegan, was wrecked at North Head on February 22, 1904, while on passage from Ballard, Washington to San Pedro with a cargo of railroad ties. Distress flares were sighted directly to the west of North Head, Washington at 10:00 a.m. and the lifesaving crews at Fort Canby and Klipsan were both called. The surf was too high to launch boats, so the surfmen waited for the vessel to strike the sands. After making several attempts, Lyle guns managed to fire lines out to the schooner so that the Captain and six crewmen could get ashore by breeches buoy.

Captain Keegan gave this account: "We were off Yaquina Bay [Oregon, several days earlier] . . . when the vessel suddenly filled. A strong southwest gale was blowing and the seas were mountain high. Since then the schooner had been waterlogged and all that kept it afloat was the cargo in her hold. We had lived in the rigging and on the deck since that time without a wink of sleep and almost nothing to eat. Realizing our deperate condition, I determined to reach the Columbia River or Cape Flattery, if possible. Sail was set and we sailed and drifted before the gale until we were off the Columbia River. About 10:00 a.m. on the morning of February 22, the schooner's back broke clear across under the hatch. I could not enter the Columbia, and finding the schooner would weather Cape Disappointment, I headed her for a sandy beach in order to save the lives of the balance of the crew. During the terrible ordeal, a Norwegian seaman was swept from the rigging and drowned in the seas, and the cook, while taking his trick at the wheel, was crushed to death by a massive wall of water that cleared the deck. Thank God it's all over."

A teenage boy from Seaview went aboard the wreck the next day at low tide and became so engrossed in searching for things to salvage that he forgot about the rising tide and was stranded aboard when the wreck floated away toward the fishing rocks. His ride was made the more terrifying by discovery of a corpse still aboard (presumably that of the cook). The boy survived his ordeal when the ship again grounded near Seaview, but he was easy to keep away from wrecks thereafter. The *FRANK W. HOWE* soon broke up completely.

1928 - The ***NORTH BEND*** was an American four-masted schooner of 981 tons. After 89 days at sea she was inbound for Astoria from Adelaide, Australia under Captain Theodore Hansen, who tried to enter the Columbia without taking a pilot. The wind suddenly died and the *NORTH BEND* drifted onto Peacock Spit at 2:30 a.m. January 5, 1928. At dawn the tug *ARROW NO. 3* almost succeeded in pulling her free, but just as she was coming off the spit, a terrific sea struck her, breaking the towing hawser and driving her back aground. Ensuing heavy winds and seas put her high on the sands, where she was safe from breaking up. The crew stayed for several days until salvage attempts were abandoned. But she remained virtually undamaged while, by a freak of nature, winter gales gradually washed the sand away from her sides and formed a half-mile channel leading to the calmer waters of Baker Bay. With a little human help she was then refloated and brought down the new channel into the Bay on February 11, 1929, thirteen months after stranding. She could easily have been refitted to continue her sailing career, but commercial sail was in its dying throes, so Arrow Tug & Barge Company of Astoria bought her for conversion to a barge.

STEAMSHIP WRECKS

The introduction of steam engines to propel vessels early in the 1800's eventually revolutionized shipping because it freed steamships from dependence on wind direction and velocity for steering a desired course. However, the early engines were unreliable, low in power, and consumed huge amounts of fuel, so sailing vessels long remained competitive for carrying bulk cargoes over long distances. It was the combination of much more efficient engines, which appeared in the last decades of the 19th century, and the opening of the Panama Canal in 1914, greatly shortening the distance from the Atlantic to the Pacific, which finally doomed the commercial sailing vessel, although this was postponed for a few years by the vast requirements for shipping tonnage during World War I.

The Hudson's Bay Company side-wheel steamship *BEAVER* made a brief appearance on the Columbia in 1836, but steam really came to stay in 1850, when regular steamship service was established between San Francisco and Portland. That same year saw construction of the first two steam-powered riverboats on the Columbia.

Steamships obviously enjoyed a safety advantage in being less likely to be driven aground by winds or currents. However, they were by no means invulnerable, and numerous steamships were lost in the area for the simple reason that the volume of shipping was greatly increasing at the same time they were introduced.

Steam Schooners - The coastal lumber trade continued to be of major importance, but the obvious advantages of steam propulsion in terms of maneuverability led to a development peculiar to the West Coast. Around 1880, small auxiliary steam engines began appearing in some of the lumber schooners to assist them in entering and leaving the numerous "doghole" harbors where sawmills were located. These were naturally called "steam schooners." However, the engines rapidly grew in size and importance until a completely new type of vessel evolved, which continued to be called a steam schooner. These were basically pure steamships of small to medium size that only occasionally set a sail when the wind was favorable. Due to abundant supplies of cheap timber, most of them continued to be built of wood.

1911 - ***OSHKOSH***: 89-foot gas schooner, 123 tons.

In 1911 the little gas schooner *OSHKOSH* left Tillamook, Oregon bound south for the Umpqua River, but she suffered damage in heavy seas and turned north to the Columbia for repairs. On approaching the bar, she was capsized by a huge wave on February 13th, killing all six men struggling to repair damages on deck. The sole survivor, Engineer George May, was trapped below in the engine room for many hours until the capsized hull at last washed up on Clatsop Beach near the south jetty, when he was able to crawl out on dry land, to the amazement of gathering curiosity seekers. It is almost miraculous that he was not killed by cascading engine parts and tools when she rolled over. Imagine too the ordeal in the darkened, upside-down engine room, sloshing with icy, oil-fouled water.

1937 - ***TRINIDAD***, 974-ton wooden steam schooner, 210 feet long, built at Fairhaven, California in 1917 by and for the Hammond Lumber Company.

The *TRINIDAD*, a large steam schooner, left Raymond, Washington on May 7, 1937 and headed to sea, bound for San Francisco with a cargo of lumber. As she was leaving Willapa Bay, she was fighting a 60 mile-per-hour gale. When the severe wind blew her off course, her rudder was put over, but she would not answer the helm and the ship was driven hard onto the north spit one mile west of the Willapa Light-house, knocking her machinery out of operation.

A Coast Guard lookout sighted distress flares at 8:15 p.m., but the North Cove motor lifeboat was already at sea assisting a fishing boat in distress, so a call for help went out to the Westport Station on Grays Harbor. A 36-foot motor lifeboat with a crew of five set off under Boatswain H.J. Perssons. They managed to find the *TRINIDAD* in the middle of the black night. Part of the deckload of lumber had broken loose, making the wreck very dangerous to approach, but, by clever maneuvering, they succeeded in rescuing all 27 crew from the bridge except the Second Mate, who had already been swept away to his death while trying to launch one of the *TRINIDAD*'s boats. For this performance, the crew of *USCG 363829* received the Congressional Gold Medal for the most outstanding lifesaving effort during 1937. Meanwhile, the hulk of the *TRINIDAD* was knocked to pieces by the gale within a matter of hours.

1929 - ***LAUREL***: American steam freighter, 5,759 gross tons, 410 feet long by 54 broad; 27-foot full load draft; built in 1919 under World War I emergency program as *WEST JESSUP*.

A Quaker Line freighter, the S.S. *LAUREL*, stranded on Peacock Spit June 16, 1929 while outbound from Portland for New York and Philadelphia with a crew of 32 aboard. She was so heavily laden with seven million feet of lumber that she had only four feet of freeboard at main deck level. She passed Astoria at midnight and proceeded toward the bar in spite of storm warnings from the U.S. Weather Bureau. A strong southwest gale was encountered, and her helmsman later related that she absolutely would not answer the helm, due to the force of the currents on her deeply laden hull and the wind against the high deckload of lumber. The result was that she was driven off course to northward and grounded on Peacock Spit about 2:00 a.m.

Captain Louis Johnson fired distress rockets and had the anchors dropped, but made no attempt to launch boats, due to the severity of the storm. Several of the crew were injured by the pounding waves, and one young man was washed overboard and lost. By 7:00 in the morning the bow of the ship broke completely away, remaining anchored, while the remainder of the ship drifted half a mile further inshore before again grounding. Meanwhile, the deckload had broken loose and the drifting lumber tossing in the breakers made rescue attempts very hazardous. In the early evening two Coast Guard motor surfboats instructed the crew to lower themselves into the water, one by one, and swim towards the surfboats. Surprisingly, this worked, with no loss of life. Captain Johnson remained on the wreck for three days, apparently hoping at least partial salvage would be possible, but to no avail.

1930 - S.S. ***ADMIRAL BENSON***, 3,049 tons, 300 feet long, built at Wilmington, Delaware in 1918.

The Pacific Steamship Company lost the S.S. *ADMIRAL BENSON*, a 3,049 ton combined passenger and freight liner, due to erroneous navigation on February 15, 1930. She was inbound for Portland carrying 65 crewmen, 39 passengers, and general cargo, including citrus fruit, when she became enshrouded in fog, and her captain mistook the wreck of the *LAUREL* for a navigation mark. He ran straight onto Peacock Spit, 400 yards west of the north jetty. Lifeboats from Point Adams and Cape Disappointment removed the passengers and part of the crew. The remainder of the crew were later taken off by breeches buoy as hopes of salvage faded when the weather became rough. At the hearing on the loss Captain C.C. Graham admitted negligence and had his license suspended for six months. Much of the cargo was saved by the underwriters. The wreck broke up rather gradually and was sucked into the sand stern first. Part of her bow could be seen at extreme low tides for 20 years

1932 - ***SEA THRUSH:*** freighter, 8,800 tons deadweight, built at Portland in 1918.

A wreck due to an entirely different kind of cause occurred in December 1932. While en route from Puget Sound to Vancouver, Washington, the Shepard Steamship Company freighter *SEA THRUSH* ran aground on December 4th, due to a faulty chart. The Coast Guard cutter *REDWING* rescued 31 crew, plus one passenger and a stowaway. Some $50,000 worth of cargo was salvaged before she broke in half near the south jetty and disappeared into the sands. Captain Ernest J. Landstrom was absolved of all blame for the loss.

1936 - ***IOWA:*** States Line freighter, 8,800 tons, 400 feet long, 11.5 knots, built at San Francisco in 1920.

The worst loss of life by shipwreck in the Pacific Graveyard during this century occurred when the States Line freighter *IOWA* went down with her entire crew of 34 on January 12, 1936. She was outbound from the Columbia when a fierce gale struck. The *IOWA* had crossed the bar just after midnight and fought to make headway until she was swept onto Peacock Spit early in the morning. The Coast Guard cutter *ONANDAGA* at Astoria received an SOS by radio and got under way, fighting out over the bar only to find the *IOWA* already on the bottom, with just her masts and Samson posts protruding from the water. She probably had suffered steering damage, as her master, Captain Edgar L. Yates, was a veteran skipper with much experience of the Columbia bar. Only six bodies were ever recovered.

1941 - ***VAZLAV VOROVSKY:*** Russian freighter, 4,793 tons, 375 feet long, built in Sunderland, England in 1912 as the British ***MAKINONGE.***

Ships of many nations have come to grief on the Columbia bar, but only one was Russian. On April Fools' Day of 1941 the freighter *VAZLAV VOROVSKY* was outbound from the Columbia to her home port of Vladivostok under Captain Tokareff with a cargo of heavy machinery and general freight. She encountered a southerly gale while crossing the bar and tried to turn back into the river, but her steering gear jammed. Anchors were dropped, but failed to hold, and she was driven onto Peacock Spit just southeast of Cape Disappointment Lighthouse. Three Coast Guard motor lifeboats removed the crew of 37, which included two women. Within two days the hull broke in half and became a total loss.

1941 - ***MAUNA ALA:*** One of the more unusual ship losses around the mouth of the Columbia was that of the "Christmas Ship." Late in 1941 the S.S. *MAUNA ALA* sailed for Honolulu with a cargo that included 60,000 Christmas trees. She was 750 miles offshore when the Japanese attacked Pearl Harbor. The ship was ordered to turn back to the nearest port, but was not informed that all West Coast lighthouses were to be blacked out for security reasons. Consequently, Captain C.W. Saunders thought he was still well offshore just before his ship plowed hard aground on Clatsop Spit the night of December 10th. Tugs could not free her, but the whole crew of 36 were taken off safely by the Coast Guard.

1963 - M.V. ***C-TRADER:*** Freighter, 2,392 tons; belonged to W.R. Chamberlin & Company of Portland.

The motorship *C-TRADER* was a freighter operating in the packaged lumber trade when lost in 1963. She had left Raymond, Washington with a cargo of 2,400,000 board feet of lumber bound for Los Angeles. On the way out of Willapa Bay she struck bottom because of steering problems, but did not seem seriously damaged and proceeded to sea. The *C-TRADER* lost steerageway when about five miles off Willapa Bay early the morning of December 6th. It was found that she was taking on water because of damage sustained when she struck bottom and that her pumps could not keep up. Less than an hour after Captain Leary sent out a distress call, her machinery was stopped by flooding. The tug *SALVAGE CHIEF* took her in tow and got her into the Columbia, but then her stern went under and she began to fill rapidly. The *SALVAGE CHIEF* then beached the *C-TRADER* to avoid blocking the main ship channel. Afterward, she was found to have suffered heavy structural damage, which prevented her from being refloated, so the *C-TRADER* had to be dismantled as a menace to navigation.

1967 - ***CAPTAYANNIS S.***: In 1967 the *CAPTAYANNIS S.*, a small Greek freighter, was carrying a cargo of fishmeal from Norway to Portland. When she approached the Columbia seeking a bar pilot, it was found that her radio would not work, so Captain Ioannis Markakis brought her in toward Clatsop Spit to make visual signals. He got too close and was driven aground by wave and current. The 22-man crew was taken off by Coast Guard helicopter. The *SALVAGE CHIEF* subsequently managed to refloat her in an epic operation lasting nine days. However, the cargo was mostly ruined by water, and it turned out that the structural damage to the hull would have cost three times the ship's value to repair. So, the *CAPTAYANNIS S.* was sold at Portland as scrap. This was the last freighter or passenger ship to have met destruction on the Columbia bar---so far!

BETTIE M. (save this one for the field trip, if you go on it): The most recent complete loss of a vessel more than 100 feet in length occurred in 1976. The *BETTIE M.* was a 191-foot tuna seiner of 21-foot draft, built by the Martinac shipyard at Tacoma in 1972 for Bumble Bee Seafoods of San Diego. While entering the Columbia on March 22, 1976, carrying a capacity load of 1,000 tons of tuna bound for the Bumble Bee cannery in Astoria, she went aground close below Cape Disappointment on an exceptionally high tide. William Dougan of Warrenton, Oregon, a retired Columbia bar pilot, was in command instead of her regular skipper. No real explanation of her grounding was ever given in local newspapers, but according to widespread local rumor, the skipper and crew had been celebrating their good catch and were under the influence of alcohol.

The Coast Guard received the first distress call about 1:00 a.m., reporting the boat aground and taking on water. A second call at 1:46 said that the pumps could not stay ahead of the leaks and requested assistance. The Coast Guard sent two 44-foot motor lifeboats, but they could not move the big seiner, so the crew of 11 were taken off by helicopter.

The subsequent salvage operation by the *SALVAGE CHIEF* was hampered by winds up to 50 knots and ten to 18-foot swells. One of the salvage crew had to be hospitalized with a leg injured when a big wave broke over the stricken fishing vessel's bow. They succeeded in dragging the *BETTIE M.* for a few hundred feet toward deeper water, but on the morning of March 25 she developed a severe leak in her engine room, which filled with water and sand, sinking the *BETTIE*. The *SALVAGE CHIEF* and her exhausted crew had to give up and return to Astoria.

Due to insistence by the Coast Guard on removal of the fuel oil from the wreck and other environmental concerns, Bumble Bee was anxious to dispose of her to avoid potentially high liability. Consequently, they sold the wreck on April 2, 1976 to B&N Salvage of Astoria, a firm which seems not to have been heard of before or since. The vessel had been valued at $3.25 million and her cargo of tuna at an additional $450,000. Her loss forced Bumble Bee to shut down its Astoria cannery and lay off workers until another boat could reach there with more tuna.

Not all the wrecks in the area took place at sea; several are located within the Columbia River. Nor have all the local wrecks been caused by faulty navigation or natural hazards--a number have been due to explosion, fire, or collision:

1922 - ***WELSH PRINCE:*** A British freighter, the *WELSH PRINCE*, was rammed and nearly cut in half by the American freighter *IOWAN* near Altoona, Washington, while both were moving through a thick fog on the Columbia at about 11:00 p.m. on May 28, 1922. Seven men were crushed to death in the forecastle of the *WELSH PRINCE*. The friction of the crash caused a fire to break out on the stricken British ship. Fire hoses from both ships succeeded in extinguishing the fire, and the tug *ONEONTA* managed to make her way through the fog from Astoria to help. As she pulled the two ships apart, the British vessel settled on the river bottom. The *IOWAN* was able to go to Portland for repairs to her badly smashed bow, but every possible means of raising the *WELSH PRINCE* failed. The U.S. Government insisted on clearing the obstruction to navigation from the river, so a contract was made with M. Barde & Sons for her removal in sections, which was accomplished by employing ten tons of dynamite! They must have been small sections.

1920 - ***STATE OF WASHINGTON***, sternwheel towboat built on Puget Sound in 1889 and owned by Shaver Transportation Company, 605 tons and 170 feet long.

Some wrecks are not of seagoing ships. On June 23, 1920 the big stern-wheel riverboat *STATE OF WASHINGTON* was placidly towing a barge, just north and upstream of Tongue Point, Oregon when her boiler suddenly blew up, hurling her pilot clear over the barge. A fireman was scalded to death and six others were injured. The riverboat sank, but the hawser to the barge kept her shattered remains afloat long enough for other vessels in the vicinity to remove her survivors.

1887 - ***TELEPHONE***: Sternwheel riverboat, 386 tons.

Another stern-wheeler, the *TELEPHONE*, was the fastest riverboat ever on the Columbia. She once made the hundred-mile run from Portland to Astoria in 4 hours 34 minutes, including stops to handle passengers and freight. She caught fire on November 20, 1887 while approaching Astoria. Captain U.B. Scott, her owner and master, decided the best way to save lives was to reach shore as fast as possible. Accordingly, he ran the *TELEPHONE* on the beach near Astoria while making some 19 knots. The passengers and crew stampeded over the side into the mud. The pilothouse ladder had burned away, so Captain Scott had to jump through a pilothouse window to escape. Several people sustained burns or other injuries, but only one inebriated and disoriented passenger was killed in the blaze. The *TELEPHONE* was gutted, but her remains were rebuilt with a new superstructure.

1951 - M.V. ***ERRIA***, Danish cargo and passenger liner, 463 feet long, owned by East Asiatic Company.

The Danish motorship *ERRIA*, a combined passenger and freight liner, also fell victim to fire. On December 20, 1951 she was waiting in the Columbia near Astoria for favorable conditions to put to sea for her return voyage to Europe with general cargo, a crew of 83, and 31 passengers aboard. About 2:30 in the morning smoke was detected. The fire spread rapidly, but lifeboats were lowered and most people aboard made their escape, though some rather narrowly. The fire was spotted from shore, and soon Coast Guard and Navy craft came from Tongue Point, only about a mile away, to assist. 103 survivors were taken to Tongue Point, where they were fed and clothed, if necessary, before being housed at the John Jacob Astor Hotel.

The *ERRIA* burned fiercely for days and did not cool sufficiently to permit a search for the eleven missing until December 23rd. The bodies of eight passengers and three crew were located, probably all of them had been overcome by smoke when they tried to save belongings instead of immediately abandoning ship. The fire had been so hot that parts of the superstructure had actually melted. The insurers wrote the *ERRIA* off as a total loss, but replacement costs proved so high that her owners, the East Asiatic Company, had her charred hulk towed to Rotterdam, Holland where she was rebuilt purely as a freighter.

WRECKED SMALL CRAFT

Thousands of small craft have been lost in the vicinity of the Columbia River's mouth, with heavy loss of life. The very numbers of the losses preclude saying much about them except that they have included everything from Indian canoes through ship's boats from the early fur trading vessels, to fishing boats, and modern pleasure craft. The majority fell victim to swamping or capsizing in the vicious breakers that often rise over the bar. Often they had already become disabled in some fashion and drifted into the shoals, where the white water is most marked.

One famous incident deserves mention, however, because it is largely fictitious. It has often been reported that over 200 commercial salmon fishermen lost their lives during one big storm in 1880, but this is simply not true. A violent southwest gale did strike with sudden squalls on the night of May 3-4, 1880, while the gillnet fishing fleet of 100 to 150 boats was positioned off Chinook Point and at the outer end of Sand Island. The fishermen had just laid their nets out and could not get them back in during the brief intervals between violent gusts. The boats of those days were propelled solely by oar and sail, so all the fishermen could do was to try to reach shore, but many boats were capsized as the fleet scattered before the storm. Many of the crews were picked up by other boats or managed to swim ashore, and quite a few boats were later found along the beaches and salvaged.

But with the primitive communications of that time, it was days before many of the missing were accounted for. In the meantime, exaggerated reports of the loss circulated. These early reports were passed along by rumor and redoubled in the retelling, only to be picked up by careless popular writers of later years. The actual loss was tragic enough, but much smaller. About 15 boats were lost and 19 fishermen drowned. Bodies washed up on shore for weeks afterward, many pathetically tangled in their own nets. One boatpuller who was missing and presumed dead reappeared a year later. He had been picked up off the bar by a ship bound for Australia, which carried him on to the South Seas, from where he worked his way home as a sailor on another ship.

WRECK SCAVENGING, ETC.

The numerous shipwrecks were a drain on the treasury of lightly populated Pacific County, which only contained 150 white residents in 1853. When dead bodies were cast up on the beach, there had to be witness fees for inquests, boat and team hire, construction of coffins, and payment of gravediggers. On a single day in the 1890's, the county had to pay for a burial lot in the Ilwaco Cemetery, plus four headboards, four shrouds, and hire four teams to carry bodies to the funeral.

On the other hand, just as to the Indians before them, wrecks were often a great bonanza to individual Caucasian residents along the shores of the Pacific Graveyard. Many local homes were built primarily of lumber washed ashore from wrecked vessels, and often included many salvaged furnishings as well. In Ocean Park there is even the "House of Doors," the walls of which are mostly made up of doors taken from a consignment in the cargo of a wrecked vessel (it must drive door-to-door salesmen crazy!).

Sometimes wrecks filled the larders of beach residents. In May 1860 Charles Stevens and his sons from Oysterville retrieved 800 lbs. of sacked flour from a Hudson's Bay Company shipment in the barkentine *WOODPECKER*. Surprisingly, sea water soaking into the sacks quickly formed a crust, and the flour in the center of the sacks remained useable.

Many other kinds of booty sometimes came to hand. After the wreck of the *LAMMERLAW*, two Oysterville citizens carrying mail up the Willapa River found a rosewood wine service rack and a sideboard full of table silver and linen floating in the Bay. They divided up the loot, and one of them paid off a doctor bill with the silver cream pitcher and sugar tongs.

In thick weather in 1882, the *HARVEST HOME* went on the beach at nearly high tide, with full sail set. The first intimation of danger came from a rooster crowing in a nearby barnyard. When day broke, all hands walked ashore without getting their feet wet. The cargo included a shipment of farm wagons, which the beach residents salvaged and sold to Willapa Valley farmers to replace the crude sledges commonly used before that. Also from the *HARVEST HOME*, one man salvaged enough gum (rubber) boots, paints, and other articles to fill his barn.

When the big steamship *QUEEN OF THE PACIFIC* stranded on Clatsop Spit in 1883, 300 tons of merchandise was thrown overboard to lighten her, including pianos, machinery, and barrels of whiskey. Salmon fishermen on Sand Island found some of the whiskey and threw a monumental party. A case of white Stetson hats was also found and distributed among friends, and this type of headgear was much in evidence around Astoria and Ilwaco for several few years thereafter.

Two coal ships were wrecked on the bar; surprisingly enough, some of this coal was light enough to be washed ashore, and one fellow picked up tons of this fuel from the beach over the course of years. He also found hundreds of cans of peas, which he rinsed in fresh water, dried in his oven, and greased to prevent rust.

During Prohibition, a bootlegging boat named the *ALPHA* was wrecked. Local Coast Guardsmen from the Klipsan Lifesaving Station were supposed to guard the cargo until it could be hauled away by Federal agents, but the "Coasties" were unwilling to shoot their neighbors and too outnumbered to otherwise prevent the liberation of the liquid cargo by thirsty locals, who formed a protective ring around each man who was carrying off a case of pilfered hootch.

After the tragic wreck of the States Line freighter *IOWA* in 1936, one man rounded up 12,000 shingles (though one wonders who was counting!). Others hauled away lumber in everything from trucks to baby buggies. Many families got enough sacked flour for six months. One witness said, "People closed their stores and went to the wreck. Trucks were at a premium. Men and women dragged what they could pick up, a piece at a time, or pushed wheelbarrows. It put a gold rush to shame. It was in January, the wind was blowing, you couldn't see fifty feet offshore, the tide was high, and everything that came in was covered with oil. You can identify lumber from the IOWA in houses to this day [1966] because of the oil discoloration."

In 1941 the outbound Russian freighter *VASLAV VOROVSKY*, carrying a cargo of machinery and lard, broke up on Peacock Spit, scattering more shortening along Peninsula beaches than residents could use up in years, but a Portland soap manufacturer bought it up at a dollar a box.

Pat McGowan salvaged a whole cargo of salmon from his own cannery which washed ashore from the wrecked *POINT LOMA*. He wasted no time in cleaning up the cans and shipping them off to San Francisco by the next boat, before the cans had a chance to rust up, as they were bound to do after being in salt water.

In the early years, when the population was small, there were a few simple rules to beachcombing. Property owners along the beach usually claimed as theirs anything that washed up in front of their place. In other cases, where the situation was less obvious, people placed a certain number of driftwood sticks as a claim marker on a pile of salvaged items they had gathered until it could be hauled away. However, when people went out to a wreck by boat, the first one there often tried to claim exclusive rights. When the *GRACE ROBERTS* wrecked opposite Oysterville in 1887, a battle royal with fists, clubs, and canes erupted among would-be pillagers, resulting in serious loss of teeth by at least one of the settlers involved. A resident named Gil Tucker remarked, "In early days we'd nick something we couldn't carry away at the time with an identifying mark. We agreed that if a person infringed on our rights we'd gang up and beat him and he daresn't go on the beach in a storm. I got a broken finger once from teaching a newcomer a lesson. Then so many people moved here we couldn't observe the rules."

As a consequence of the extensive wreck plundering by the locals, captains of stranded vessels would, whenever possible, keep a crewman aboard as a watchman until the insurance representatives could arrive. It must be pointed out, however, that although the locals gleefully took advantage of wrecks after the fact, there are no indications whatever that any ships were ever lured to destruction in this vicinity by showing false lights, as sometimes happened on the East Coast or in parts of Europe. In fact, area residents often risked their own lives attempting to save mariners in peril.

DEVELOPMENT OF MARINE SAFETY AROUND THE COLUMBIA'S MOUTH

For many decades after the discovery of the Columbia River in 1792 first attracted shipping to the area, the shores of the Pacific Graveyard remained virtually in their formidable natural state. However, since the middle of the last century, a series of federal, state, and private institutions have introduced services, equipment, and structures that have markedly improved marine safety at the mouth of the Columbia, both by prevention of shipwrecks and by increasing the chance of rescue for the crews when wrecks do occur. We will now take a brief look at the various safety factors in the order of their first introduction to this particular area.

Bar Pilotage – Bar pilotage was the earliest safety service in the area. What is meant by this term? First of all, it does not mean a flight service from one tavern to another, which would certainly not have been required in early Astoria, which was reputed to have a saloon on every corner in town. A bar pilot is a skilled mariner with detailed knowledge of local conditions who is taken aboard a vessel as a guide and advisor to her captain while crossing the dangerous area in the vicinity of the bar.

In the earliest years of white occupation of the area, anyone who was willing to do so might serve as a bar pilot. Sometimes the Chinook Indian chief Comcomly was said to have led ships across the bar in his canoe. During the fur trade era, the Hudson's Bay Company kept a few of their employees at Fort George (as they called Astoria) to pilot their own ships into the river.

In April 1847 S.C. Reeves became the first licensed American bar pilot for the Columbia, but he only had an open boat to reach ships and he lacked significant local experience. After he piloted several ships aground, he suddenly discovered that California was much friendlier and left the Northwest. In December 1849 Captains J.G. Hustler and Cornelius White brought the schooner *MARY TAYLOR* from San Francisco to become Astoria's first regular pilot vessel. As such, weather permitting, she would stay at sea off the Columbia's mouth. Inbound ships would pick up a pilot from her, and outbound vessels would drop off a pilot taken aboard at Astoria.

Captain George Flavel, the area's most famous bar pilot, arrived in Astoria from California in 1850. He was a former shipmaster and steamboat pilot. By ability and determination he was to dominate Columbia bar pilotage for some 30 years, eventually establishing a virtual monopoly. In 1853, in partnership with Captain Alfred Crosby, Flavel acquired the schooner *CALIFORNIA*, which they operated in competition with the *MARY TAYLOR*, soon driving the earlier pilot vessel out of business.

Flavel was himself twice shipwrecked in the course of his active career. The first time was in the *GENERAL WARREN*, a 309 ton propeller steamer, built in Maine in 1844. On January 28, 1852 she sailed from the Columbia for San Francisco with passengers and crew totalling 52 people and a cargo of wheat and live hogs. She encountered a rising gale and, about midnight, her fore-topmast carried away, straining her timbers and starting some bad leaks. Loose wheat shifting in her hold clogged the bilge pumps, so Captain Thompson turned back for Astoria, reaching the bar at dawn, but the pilot schooner could not reach her until late afternoon. Thompson specifically asked for Flavel to guide them over the bar, and Flavel went aboard at once, without even pausing to put on his sea boots.

Thompson asked Flavel to take the *GENERAL WARREN* into the Columbia at once, since she already had three feet of water in the hold and Thompson doubted that she could last until morning. Flavel at first refused, stating, "It's absolutely out of the question. You will have to ride out the storm. Possibly by morning I can take you in. The bar is breaking clear across. You haven't enough steam to cross the bar before dark." Thompson answered that he would stoke the furnaces with fat bacon and dry stuff to make more steam and insisted that Flavel pilot his ship in. Flavel said, "I know the bar. You can never make it. It is suicide to make the attempt." By now, fearful passengers had crowded around, pleading and threatening. When one of them accused Flavel of cowardice, the insulted pilot flushed and fired back, "A heavy ebb tide is running. It is unsafe, but if you insist, I will take you in, but I will not be responsible for the consequences."

Flavel ordered the pilot schooner to follow the stricken steamer as he headed in for the bar about 5:00 P.M., but the wind soon changed and the schooner fell far behind. The *GENERAL WARREN*, wallowing with tons of water aboard, would barely answer her helm and could make no headway against the strong ebb tide. Flavel wanted to anchor, but Captain Thompson decided to beach the ship in an effort to save the passengers. She was run onto Clatsop Spit about 7:00 p.m., but immediately showed signs of breaking up. Heavy seas smashed all but one lifeboat. Captain Thompson broke out a barrel of whiskey to help the drenched passengers and crew stand the cold and impending doom. Flavel saw the folly and said, "Captain Thompson, we need clear minds if we are going to save the men aboard. Help me roll that barrel of whiskey overboard."

About 3:00 a.m. Thompson asked Flavel if he thought he could take the remaining boat to Astoria to get help. The pilot answered, "No, we can never live through the breakers, but I am willing to make the attempt." Accordingly, nine passengers and sailors were selected to man the oars. Miraculously, the boat was safely lowered away amidst the pounding surf. As it laboriously rowed away, Captain Thompson was stricken by doubt and called out, "Pilot, you will come back?" Flavel shouted back, "If I live, I will return."

The boat fought its way through the breakers and a blinding snowstorm to reach Astoria after hours of constant bailing. The barque *GEORGE AND MARTHA*, which was anchored there, immediately put a fresh boat and crew at Flavel's disposal for the rescue effort. On the way back, Flavel stopped at a farmhouse for a quick breakfast--seemingly inexplicable until you recall that he probably had nothing to eat since lunch the previous day and had spent a sleepless night, followed by hours of desperate physical exertion and wetness in bitter cold. When he at length reached the wreck scene, the *GENERAL WARREN* had completely broken up and disappeared. All 45 people left aboard perished. Two years later, part of the *GENERAL WARREN* was found washed up on the beach 60 miles north of the Columbia. It was one of the heaviest losses of life in any single wreck of this area.

In spite of the failure of his lifesaving attempt, the citizens of Portland presented Flavel with a medal for his efforts, and one of the passengers who went with him in the *GENERAL WARREN*'s boat became a friend for life.

The second wreck involving Captain Flavel ironically resulted in delaying construction of the first lighthouse in the Pacific Northwest. The barque *ORIOLE* arrived off the bar in September 1853 with a cargo of building materials for the construction of a lighthouse on Cape Disappointment. She had to wait eight days for weather conditions to improve. Captain Flavel boarded her as pilot at 9:00 p.m. on September 18th, but refused to try crossing the bar until 3:00 p.m. the next day. As the *ORIOLE* worked her way up the narrow channel, the wind suddenly died and she drifted into the shoals, where her rudder was knocked off. Then she drifted back out across the bar, leaking badly. A lighter carried aboard for landing the lighthouse materials was put over the side, and some of the building material was put in it in the attempt to save it. Soon afterward, Captain Lewis H. Lentz gave the order to abandon ship, which capsized and sank 15 minutes later. The ship's two lifeboats then tried to tow the lighter to shore, but worsening weather forced them to cut it adrift that night. After a cold night in open boats, the survivors were picked up by the pilot schooner *CALIFORNIA*.

Flavel was bitterly criticized for high fees and monopolistic practices, and there were periodic attempts by rivals to establish competition, but he always won out. After Flavel retired about 1882, pilot services were offered for a time by the State of Oregon, later by the Union Pacific Railroad, and the Port of Portland. The field was only left exclusively to the present Columbia Bar Pilots Association in the early years of this century after a big liability lawsuit revealed the huge fiscal vulnerability of large organizations operating in such a risky business.

Pilot Qualifications - Bar pilots presently board inbound ships in the vicinity of the large navigational buoy (LNB), which was formerly the Columbia River lightship station, and con ships for the 17 miles to Astoria, where they debark and a Columbia River pilot takes over. Reflecting the hazardous local environment, requirements to join the Columbia Bar Pilots Association are currently the most stringent of any pilot organization in this country (and possibly in the world). A candidate must have a federal unlimited master's license, plus at least two years experience as Captain of an ocean-going vessel, as well as considerable experience of the local area, and undergo extensive special training on top of all that.

Pilot schooner *JOSEPH PULITZER* (slide) - We have a picture of the first pilot vessel used by the Columbia Bar Pilots Association. She was the sailing schooner *JOSEPH PULITZER*, built at Essex, Massachusetts in 1894 as private yacht for the famous newspaper publisher of that name. She later served as a New York City pilot boat before purchase in 1898 by the recently formed Columbia Bar Pilots Association. They sold her to the Port of Portland in 1909, which continued to operate her in pilot service on the Columbia bar until 1920. She was lost in Alaskan waters later that year while serving as a mail boat.

Hydrographic Surveying & Nautical Charts - Accurate charts, as marine maps are termed, are obviously of critical importance to safe navigation. The first official survey of Columbia River bar conditions was made by Sir Edward Belcher, commanding H.M.S. *SULPHUR*, in 1839, when Britain still hoped to set the Canadian boundary along the Columbia.

(slide)The *McARTHUR* is a present-day hydrographic survey ship operated by the National Oceanic and Atmospheric Administration, the federal agency currently responsible for charting U.S. waters. She is named for Lieutenant Commander William P. McArthur of the U.S. Navy., who made the first really thorough survey of the Columbia's mouth in 1850 while on detached duty with the U.S. Coast Survey. This showed that the north channel had altered considerably from previous surveys and had become unsafe for all but small vessels. Two years later, Lieutenant James Alden completed a thorough survey of the whole Northwest coast, and his charts were published in 1855. Further charting of the Columbia's mouth by the Coast Survey in 1865 and the Army Corps of Engineers in 1876 demonstrated the continuing problem of varying channel depths and location.

Buoyage - Buoys are floating markers used to mark dangerous spots or delineate a shipping channel. Present classifications include: spar, can or nun buoys, bell, gong, whistle, lighted, and combination buoys (coming from seaward, green to port and red to starboard - other paint schemes mark the middle or intersection of channels or special hazards). U.S. buoyage was maintained by the U.S. Lighthouse Service, until that civilian organization was absorbed by the Coast Guard in 1939.

Early mariners in this area had to rely on blazed trees or white marker flags ashore by day or bonfires at night as guides to steering their courses until iron can buoys were placed in the Columbia between the bar and Astoria in the early 1850's. At that time, manufacturing and shipping costs for buoyage on the remote West Coast were four times higher than on the East Coast.

Strong currents, or occasionally ice on the river, often cause buoys to break loose, and they generally drift many miles before going on the beach. One drifted all the way to Alaska. Keeping buoys in proper position and good repair is critical to the safety of shipping, but can be very hazardous work; buoys swing dangerously when being handled in rough weather, and it can be very difficult getting to buoy locations for maintenance or replacement. Buoy tenders are rather small, slow vessels, but ruggedly built, with a forward well deck that permits hauling buoys aboard by means of powerful booms. One U.S. Secretary of Commerce said this of the buoy tenders: "This is a fleet of vessels whose duty it is to go where no other vessels are allowed to go, and who, through storm, darkness, and sunshine, do their work for humanity."

(slide) The *SHUBRICK* was the first lighthouse and buoy tender on the Pacific Coast; after being launched at the Philadelphia Navy Yard in 1857 she had to steam around South America to reach San Francisco, enduring a deadly outbreak of yellow fever among her crew en route. At one point she ran out of fuel and had to burn her furniture and cabin panelling to reach the next port. She was the only tender on the entire Pacific coast until 1880, although from 1861 to 1867 she served as a revenue cutter. She was thoroughly worn out and sold at auction in Astoria in 1886.

(slide) The *FIR* is a present-day Coast Guard buoy tender.

Lighthouses - A lighthouse serves to mark and identify an important point along a coastline. At night individual lighthouses are identified by their distinctive beacon characteristics, which may be fixed or flashing, white or colored, or any combination of these features. In daylight they are distinguished by the shape and paint scheme of the structure. At one time or another, six different lighthouses have existed along the Pacific Graveyard. From north to south they were:

(slides) The Willapa Lighthouse (originally called the Cape Shoalwater Lighthouse) was located on the north side of the entrance to Willapa Harbor, about 25 miles north of Cape Disappointment. It was first lighted in 1858, but had to shut down the next year because it was so isolated that the government was unable to supply provisions, lantern oil, or pay for the keepers. After angry complaints from mariners, it reopened in 1861. Beach erosion, which has carried away 1,500 acres at Cape Shoalwater, forced the abandonment of the original lighthouse December 22, 1940. It began collapsing four days later and was completely gone in 1941. The original site is now some 40 feet below the sea. Continuing erosion forced closure of the second light in 1952, and the third in 1958. The location of the fourth Willapa Lighthouse of 1959 (see slide) was more than 3,000 feet from the original lighthouse, the shoreline having receded in excess of two miles. The process continues to this day, and the present light cannot really by termed a lighthouse. It is just a small automated lantern on a modest steel tube that can easily be moved.

North Head Lighthouse (slide) - In 1898 the North Head Lighthouse was completed a scant two miles north of the Cape Disappointment Lighthouse. The older lighthouse had been found to have limited visibility to vessels approaching from the north, and, at that time, coastal traffic from that direction was growing rapidly in volume, due to the recent population increase around Puget Sound. The North Head Light is still in use.

(slides) Cape Disappointment Lighthouse, the oldest in the Northwest, was first lighted October 15, 1856. By comparison, the first lighthouse on the U.S. West Coast was established in 1854 on Alcatraz Island in San Francisco Bay. Money was appropriated for construction at Cape Disappointment in 1850, but completion was delayed by the shipwreck in 1853 of the *ORIOLE*, which was bringing building supplies. Preliminary work began in 1854. A further delay was caused by an incompetent agent who ordered lenses for eight new West Coast lighthouses with no regard for the dimensions of the structures, which consequently had to be modified. The magnificent original lens, a first order Fresnel-type lens visible for 20 miles, arrived in 1856 and is presently preserved at the Lewis and Clark Interpretive Center in Fort Canby State Park on Cape Disappointment.

Desdemona Sands Lighthouse (no slides) - The Desdemona Sands Lighthouse was a wooden structure erected in 1902 on pilings in the middle of the Columbia River to mark a dangerous shoal. It rose 46.5 feet from the water and was built in a manner common on the East Coast, but rare in the Pacific. It was long ago replaced by a small automated beacon in a different location at the west end of Desdemona Sands.

Point Adams Lighthouse (no slides) - A wooden frame lighthouse was established in 1875 at Point Adams, Oregon, within the Fort Stevens military reservation. It was decommissioned in 1899 after construction of the North Head Lighthouse and establishment of the lightship station offshore rendered the facility redundant, while the new south jetty caused acres of land to build up around Point Adams. The structure was destroyed in 1912, at the order of the Secretary of War, after children were injured playing in the vacant building.

(slides) Tillamook Rock Lighthouse - A world-famous lighthouse is located on Tillamook Rock, Oregon, a 120-foot basalt pinnacle located in the open sea about a mile west of Tillamook Head and 20 miles south of the Columbia River bar. This dramatic and forbidding location was chosen because the summit of Tillamook Head on the mainland is frequently shrouded in fog. Construction began in 1879 and was completed in January 1881.

Green water has washed completely over the lighthouse, more than 130 feet above sea level, at least six different times (in 1882, 1887, 1894, 1912, 1914, and 1934), due to a narrow fissure at the base that sent storm waves and broken rock shooting skyward, smashing rock fragments through panes of the lantern room and extinguishing the light. The structure was actually partially flooded on at least two of these occasions. During the storm of October 21, 1934, winds reached 110 miles per hour.

"Terrible Tilly," as the lighthouse was nicknamed, received serious storm damage to structures and equipment on many other occasions and was very difficult to resupply, sometimes being isolated by weather for weeks at a time. The Coast Guard was glad to close this expensive station in 1957; it was able to do so partly because of the decline in coastwise shipping brought about by expanded rail, highway, and air transportation, but more directly because the installation of a radio beacon on the Columbia River lightship caused most commercial vessels to stay well offshore until lined up with the lightship, and then to approach the bar from the west. Today the old lighthouse is a columbarium, or repository for cremated human remains.

Lightships – A lightship is not underweight! It is a specialized vessel used to mark a location where it is impossible to erect a lighthouse. Since lightships had to try to remain on station until relieved by another lightship, they were exposed to the very worst weather conditions. An additional serious danger was that of being run down by another ship in fog, since they were anchored and could not maneuver to avoid collision. None were ever sunk by ramming here, but one was struck and damaged by a steamer in 1908. Another received a glancing blow from a freighter in 1950, and the lightship probably only survived because the freighter's helmsman spotted her at the last moment and altered course. On another occasion the lightship's side was dented by a fishing boat.

Lightship No. 50 (slide) became the first U.S. lightship on the Pacific Coast when she was placed on the new Columbia River station, about five miles off the coast, in 1892 to enable ships entering the Columbia to line up with the channel from a safe distance offshore. She was a wooden vessel, 123 feet by 27 feet, displacing 425 tons, built at San Francisco. Although equipped with a steam boiler for heat and operation of foghorns and winches, her only propulsion was by means of a set of sails for emergencies.

A terrific storm on the night of November 28-29, 1899 broke her anchor chains. The tugs *ESCORT* and *WALLULA* came out from Astoria to assist, but every towing line they passed to her broke. The light-house tender MANZANITA joined in, but when she passed a line over, it fouled her own propeller and had to be cut loose. About dark the next day, the stricken lightship drove aground on the beach inside McKenzie Head, near Cape Disappointment, miraculously missing destruction on the rocks. When the tide went out, Captain Joseph Harriman and his crew got ashore safely.

Lacking funds for a replacement lightship, the Lighthouse authorities came up with an improbable scheme to salvage No. 50 by dragging her a half mile over the relatively low neck of land separating her from the protected waters of Baker Bay. Remarkably enough, this succeeded. A road was cut through the timber, the ship was emptied, jacked up, and huge trucks placed under her keel. Then she was laboriously dragged by means of block and tackles attached to capstans powered by teams of draft horses. Sixteen months after her stranding she was relaunched on Baker Bay with considerable ceremony.

Lightship No. 88 (no slide) - Lightship No. 88, a steel vessel equipped with steam propulsion, replaced No. 50 in 1909 and remained the Columbia River Lightship until 1939, when the Coast Guard absorbed the U.S. Lighthouse Service and, for some reason, switched the stations of Lightship No. 93 and Lightship No. 88. The 88 went north to 93's old station on Umatilla Reef, near the Strait of Juan de Fuca, and No. 93 was brought to the Columbia.

Lightship No. 604 (slide) - A brand new Diesel-powered lightship came on station in 1951. She was equipped with a radar reflector, radio beacon, and diaphone fog horns, besides her lights. In 1979, she was replaced by an LNB, a huge automated buoy, 40 feet in diameter, equipped with automated equipment performing all the lightship functions--except that lifeboats from wrecked vessels and fishing boats in distress sometimes went to the lightship for refuge, rather than risk going through breakers to shore. At the time of her decommissioning, the Columbia River lightship was the last active U.S. lightship on the West Coast. The most recent lightship position was 5.3 miles southwest of the bar.

Lifesaving Stations - U.S. lifesaving stations, equipped with lifeboats as well as line-throwing Lyle guns and breeches buoy apparatus for rescue from the shore, were operated by the U.S. Lifesaving Service from 1871 until 1915, when that civilian organization was amalgamated with the Revenue Cutter Service to form the present day Coast Guard. The Revenue Cutter Service's primary duty was enforcement of the customs laws, but in the 1830's it did receive a rescue role when it was directed to send its cutters on winter cruises to find and render aid to vessels in distress.

Up until 1882, the only regular employees at the lifesaving stations was a keeper, who had to round up a volunteer crew of assistants when a wreck occurred. In this lightly populated area, it was often not an easy task to find enough volunteers for such a dangerous task, frequently in the middle of a stormy night. In 1881 when the British barque *LAMMERLAW* stranded, it took the Keeper of the North Cove Lifesaving Station a day and a half to reach the wreck because he could not muster eight volunteers all at one time to man the lifeboat oars. A lighthouse keeper trying to help him had to hike 15 miles in quest of recruits, and when they were finally found, they were only able to launch the boat due to the additional assistance of several women missionaries. But the next day, with the help of local Indians, all 15 men who were clinging to the *LAMMERLAW*'s cabin top and rigging were saved. It required two round trips, in which two oars were broken and the Station Keeper injured his arm. But his arduous work was still not done, for another barque, the *G. BROUGHTON* of Liverpool, was then sighted aground on Leadbetter Point. The intrepid lifesaver sent for a sawmill tug to carry a line-throwing gun and its associated gear across the bay to Oysterville, where a team was hired to haul the equipment to the beach. By the time it arrived, the British captain had walked ashore and he refused assistance. So, our hero was finally able to return to North Cove to nurse his battered arm and recover from 32 continuous hours of hard labor.

In 1882 the first local crew of full-time surfmen were sworn in at Cape Disappointment. Up until about 1912, the stations were equipped with Dobbins and/or McClellan lifeboats, propelled by rowing or, in favorable circumstances, by sailing. Then an early version of the 36-foot motor lifeboat came into use, although rowed surfboats were still employed for launchings from open beaches. In addition to manning the boats, surfmen maintained lookouts with telescopes and signal guns on vantage points, and patrolled open beaches nightly in winter to warn off vessels approaching danger by rocket or flare signals and to report vessels already wrecked. Watching lifesaving crews practice launching surfboats or drilling with the linethrowing and breeches buoy apparatus was a favorite attraction for tourists on the North Beach Peninsula.

The Pacific Graveyard was formerly served by four lifesaving stations, but only one is still in use. The first lifesaving station in the Pacific Northwest was the North Cove Station, established in 1877 on the north side of the Willapa Bay entrance. Another was located on the North Beach Peninsula at Klipsan, from about 1891 until 1947; it was originally known as the Ilwaco Beach Lifesaving Station, although located miles from the town of Ilwaco.

Cape Disappointment Coast Guard Station (slide) - A lookout for shipwrecks was maintained on Cape Disappointment from the establishment of the lighthouse in 1856. A lifesaving station was set up there in 1878; it was originally called the Fort Canby Lifesaving Station because it was inside the Army coast defense post. Joel Munson, the Cape Disappointment lighthouse keeper, salvaged a metal lifeboat which washed ashore from the wreck of the *INDUSTRY* in 1865. He raised money for needed equipment to outfit it as a lifesaving surfboat by staging benefit dances in Astoria and recruited a volunteer crew. He also talked the Lighthouse Establishment into providing a boat shed. It was on this foundation that the Government set up a permanent lifesaving station. In its first year of use, Munson's boat saved 13 people.

TRIUMPH (slide) - Cape Disappointment Coast Guard Station today has one of only four of the big 52-foot motor lifeboats in the nation, the *TRIUMPH* (slide). A previous *TRIUMPH*, a 50-foot boat of a different design, was lost during a tragic rescue attempt January 4, 1961. In company with a 36-foot motor lifeboat and a 40-foot utility boat from Cape Disappointment, the *TRIUMPH* went to aid the troller *MERMAID*, which had lost her rudder. While maneuvering to retrieve a broken line, the *TRIUMPH* suddenly capsized and sank with all but one of her crew, who was picked up by the *MERMAID*. Then the 40-footer capsized too. *CG36454* managed to pick up three men from the 40-footer and took them to the Columbia River lightship, which the 36-footer barely reached before it sank. One Coast Guardsman managed to swim ashore. The *MERMAID* also sank in the vicious sea, taking down both her crewmen, plus the Coast Guardsman they had picked up from the *TRIUMPH*. In all, five Coast Guardsmen and two commercial fishermen drowned that tragic day.

The remaining lifesaving station was at Point Adams, Oregon (slide). Buildings are still standing at all of the station sites, but none are open to the public. The development of faster lifeboats and rescue helicopters after World War II caused the closure of many lifesaving stations, which no longer needed to be so close together. Today the Coast Guard operates an air base just outside Astoria. It is equipped with several rescue helicopters (slide) and also a pair of Falcon jets, which cannot perform rescue work, but are very useful for speedy long-range searches (slides).

Bar Tugs & Salvage Tugs - Bar tugs were large, powerful steam tugs that offered towing services across the bar. This was a great asset to safety as long as sailing vessels were still used commercially in large numbers. The first one on the Columbia River bar, the *RABBONI*, entered service in August 1865. She was owned by Captain Paul Corno, who had lost the barque *INDUSTRY* and seven lives on the Middle Sands earlier that year. He also offered pilot service, with the avowed intent of breaking Flavel's monopoly. Corno's attempt was poorly timed, as from 1864 to 1866 only 75 sailing vessels entered the river compared to 114 steamers. Furthermore, shipmasters preferred Flavel's pilot service to Corno's, so the *RABBONI* had to leave for San Francisco in 1866, due to insufficient business. By 1869 the situation had changed, with the growing grain trade out of Portland conducted in foreign square-riggers. The State of Oregon had offered a subsidy for operation of a steam tug and pilot vessel. Flavel seized the opportunity and ordered his own powerful tug, the *ASTORIA* that year, followed by the *C.J. BRENHAM* in 1874, then the *COLUMBIA*, and eventually a new *ASTORIA*.

TATOOSH (slides) - The *TATOOSH* was one of the later bar tugs. She became famous when Captain Buck Bailey risked his own vessel to go right into the breakers at Peacock Spit to pass a towing cable to the disabled steam schooner *WASHINGTON* on November 17, 1911. The *WASHINGTON* had gone aground, heavily laden with lumber, and was buffeted for 20 hours with her boiler fires extinguished by leaks. The *TATOOSH* succeeded in pulling the *WASHINGTON* free under the eyes of hundreds of onlookers on North Head. It turned out that the *WASHINGTON* was uninsured, but her owners ultimately made a settlement with the *TATOOSH*'s owning firm, Puget Sound Tow Boat Company.

SALVAGE CHIEF (slides) - The *SALVAGE CHIEF* is a tug of another kind. As implied by the name, she is specially designed for salvage work. She was converted at Portland in 1948 from a World War II LSM (landing ship medium) for Fred Devine, a Portland diver and salvage expert. His new idea was to plant anchors beyond the surf, then place his tug between these anchors and a stranded vessel to pull it free using a battery of powerful windlasses mounted on the *SALVAGE CHIEF*. She has crew of 20, six big anchor windlasses, three large Diesel generators, and 3,600 horsepower propulsion engines, as well as pumps, diving equipment, a helicopter pad, thousands of feet of steel cable, etc. The *SALVAGE CHIEF* is still based in Astoria today under command of Captain Reino Mattila.

The slides show her freeing the barge *OTSEGA*, November 23, 1953, 1.5 miles north of Long Beach. The barge had broken while under tow, bound for the Umatilla Ordnance Depot with 700 tons of explosives aboard. We have already heard of the *SALVAGE CHIEF*'s exploits involving some other shipwrecks. During her career she has had her failures, but has also saved scores of ships and barges from loss. In recent years her notable work has included assisting in the salvage of the *EXXON VALDEZ*.

Weather Reporting - Accurate weather reporting and forecasting is another critical factor for marine safety. The U.S. Army Signal Corps kept weather records at Fort Canby, Washington from 1864 to 1899, but had no mechanism for issuing public weather reports and storm warnings. It was only in 1902 that the U.S. Weather Service established its first local weather station near the North Head Lighthouse.

Columbia River Jetties - Between 1885 and 1917 two giant jetties were built at the mouth of the Columbia River; at the time of their completion, they were the largest in the world. Many people may assume that they were built to shelter the river's entrance from ocean waves. To some extent they do have that effect, but their actual purpose is to stabilize the location of the ship channel and to increase its depth by the scouring action caused by funneling the river's current through a narrower outlet.

U.S. Army Corps of Engineers - By the Rivers and Harbors Act of 1866, Congress made the U.S. Army Corps of Engineers responsible for development and maintenance of all federal waterways. The Corps of Engineers' Portland District was established in 1871, and in 1876 the Corps surveyed and charted the Columbia's mouth to determine the necessity for artificial improvements. By then, the annual value of exports from the Columbia had already reached $20 million, but prospects for further growth were hampered by the shallow, wandering channel. To safeguard shipping, the Engineers recommended that a construction of a jetty from the Oregon side of the river's mouth.

South Jetty (slides) - Funds were first appropriated for building the south jetty in 1884, and actual work commenced in April 1885, but the project ran out of money in 1885 and again in 1886. Meanwhile, by 1888 the north channel had shoaled to only 17 feet, while the course of the south channel was such that sailing vessels could not beat into it against the prevailing northwestly winds of summer, although they could almost always get out. Lobbying to rectify this situation led to a much larger appropriation in 1888, and jetty work moved into high gear.

The sternwheeler *CASCADES* was assigned to tow barges of rock from upriver quarries to Astoria, where the tugboat *GEORGE H. MENDELL* took over for the run on down to a large receiving dock at Fort Stevens. Five narrow gauge steam locomotives and 65 special flatbed cars were used in the actual construction, dumping the rock into the sea from a trestle that was progressively extended out into the surf. The original four-and-a-half mile section of the south jetty was finished in 1895. It was 80-90 feet across at its base and 30 feet high. After its completion, the treacherous Middle Sands disappeared, 2,900 acres of surf around Point Adams became dry sand, and the channel depth increased to 30 feet. Perhaps the real miracle is that all this work was done for $2,025,000, only 53 per cent of the original estimate--when is the last time you heard of a massive government cost under-run? Later extensions of the south jetty made it nearly seven miles long, and the channel gradually deepened to 37 feet.

ADMIRAL (slide) - Oddly enough, one of the little locomotives used to build the south jetty actually figured in rescuing survivors of a shipwreck. The coasting schooner *ADMIRAL* sought to enter the Columbia during a blinding snowstorm in 1912. Mistaking her course, she ran into the jetty, and the pounding waves actually lifted her up and smashed her through the trestle. Incredibly, all aboard succeeded in leaping from the bucking wreck to the smashed trestle. Meanwhile, the wreck had been spotted and volunteers were recruited to take one of the locomotives out to search for survivors. There was no little danger that a big wave might wash the engine right off the track. The trainmen did not realize the wreck had broken the trestle, and there is a good chance they might have driven right into the chasm, if they had not encountered half-frozen survivors groping their way along the trestle. In the end, everyone was saved, including the Captain's wife and young child. Meanwhile, the *ADMIRAL* had been driven on through the trestle, and was boarded by men from one of the local tugboats. They narrowly escaped death when she suddenly rolled over and sank in the river.

North Jetty (slide) - As the south channel deepened, sand started piling up on the north side of the river. To correct this, a an additional two-mile-long north jetty was built out from Cape Disappointment across Peacock Spit under private contract between 1914 and 1917. A minor addition to the jetty system is Spur Jetty "A", built in 1939 to improve the boat channel leading to Ilwaco, Washington.

Dredges - It was originally thought that all the jetty construction would eventually achieve a channel depth of 50 feet. However, a 40-foot depth was the best achieved after completion of the north jetty. With the great increase in the size of ships that began after World War II, that depth no longer provided a sufficient safety margin in rough weather. The Columbia Bar Pilots Association requested dredging the channel down to 48' feet over the bar, and Congress ultimately authorized this in 1953. The work has been carried on by a number of specialized vessels, some of which are operated directly by the Corps of Engineers; others are orivate dredges working under contract to the Corps.

JOHN BIDDLE: The 351-foot-long *JOHN BIDDLE* is an example of one of the Corps of Engineers' big seagoing hopper dredges. She has done a great deal of her work on the Columbia River bar, where she had two brushes with disaster. On July 1, 1964, the *BIDDLE* got too close to the jetty while dredging and hit the rocks, punching a hole in her bottom. Through skillful maneuvering, Captain Ernest Williams managed to back her off, after 20 anxious minutes, and she was soon repaired at Portland. She was struck in a heavy fog on August 9, 1977 by the Matson containership *HAWAIIAN*. Her pumps managed to keep her afloat in spite of a huge gash in her side, and the tugs *BETSY L.* and *SALVAGE CHIEF* took her to Portland for repairs.

Electronic Aids to Navigation - Perhaps the greatest boost to marine safety in recent decades has come through the marvels of modern electronics. Radio permits instant communications between ships and with the shore; RADAR enables navigators to discern other vessels or a nearby shoreline regardless of night or bad weather; electronic depth sounding gives constant information on the depth of water beneath a ship; LORAN and satellite navigation systems give precise position fixes even when the heavens are obscured by clouds. Nothing is foolproof, but all these aids taken together greatly reduce the risk of collision or running aground.

CONCLUSION - BAR NOW RELATIVELY SAFE

In spite of all the hazards, the volume of shipping entering the Columbia grew rapidly from the middle of the last century onwards. In 1895 the ship tonnage was estimated at 436,192. By 1964 this had grown to some 20 million gross tons, and it was estimated that one million crossings of the bar had been made between 1900 and 1964. Today, about 2,000 merchant vessels transit the bar each year, although it should be noted that this does not mean 2,000 different ships, as certain ones visit the river several times in a year. In spite of the increasing volume and size of ships, the progressive introduction of the many safety services and installations has reduced the frequency of wrecks. As we have seen, no merchant ship has been lost since 1967, and no really large fishing vessel since 1976. However, it would be foolish to assert that there will never be another shipwreck in the Pacific Graveyard. The real question is simply--**when!**

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